

Department of Information
and Agricultural Journalism
Agricultural Extension Service
University of Minnesota
St. Paul, Minnesota 55108
Tel. (612) 373-0710
May 5, 1980

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TALKING TO YOUR TEEN MAY HELP HER AVOID PREGNANCY

High quality communication with influential adults seems to help young women avoid pregnancy during the time of greatest risk--the teenage years--according to University of Minnesota social scientists Carl Fredrickson and Ronald Pitzer.

The extension family living specialists advise parents to share their views on premarital sex with their teenage children. Silence on the subject, or preaching, provide little help to young people searching for limits on sexual activity.

"Research at John Hopkins University indicates that by age 19, 55 percent of unmarried U.S. women have had sexual intercourse," Fredrickson says. "Sexual activity is becoming acceptable to the point that the teen who may not want to become sexually active feels compelled to justify his or her behavior to peers."

Fredrickson reports in the publication Sociology of Rural Life that the proportion of unwed mothers in Minnesota who were teenagers grew from 45 percent in 1970 to 52 percent in 1977. This was during a period when reliable contraceptives became increasingly available and acceptable to the public.

The illegitimacy rate for women of all ages actually declined in Minnesota from the 1.6 unmarried women who gave birth per 1,000 in 1970 to 1.3 per 1,000 unmarried women in 1977. "If the illegitimacy rate had not changed, we would have had about 590 more out-of-wedlock births in 1977 than we actually had," Fredrickson says. "However, it's the older, unmarried women who had fewer births. These older women appear to have easier access to effective contraceptives, and studies indicate that they are more likely to use contraceptives before entering sexual relations than are teenagers."

Many adolescents have negative attitudes toward what they consider planned sex, Fredrickson adds. Their feelings of guilt or pursuit of spontaneity and naturalness seem to interfere with use of available contraceptives.

Pitzer says that some parents don't talk about sex with their teenage children because they are afraid it may result in more experimentation. "This is unlikely if the parent discusses the subject carefully, factually and with a caring attitude.

Add one--If a parent

If a parent preaches, giving the teen little opportunity to share her ideas and feelings, she may feel the parent does not really care about her as a person, only about her behavior."

Research indicates that girls who have good, active communication with their mothers about sexuality are less likely to get pregnant than those who do not, Pitzer adds. They are also a little less likely to engage in sexual intercourse.

"Those with good communication are probably being more thoughtful about what they do," Pitzer explains. "They seem to be more rational and careful, actively making a decision about whether or not to be sexually active. They may be less likely to get pressured into sex or be carried away by their passions."

Pitzer describes high quality communication as sharing of ideas and feelings while being aware that the other person is in tune with one's feelings. Such sharing takes place if the parent and teen really listen to each other, hear what is said, and make it known that they care about each other's feelings.

Good communication contributes to a child's self-esteem, Pitzer adds. It builds a sense of autonomy, which in turn helps a teen accept responsibility for his or her actions. Self-esteem helps a teen stand up to pressures from peers and partners.

Community support could be extremely helpful to parents and teens, Fredrickson adds. Such support could be made available through what he calls "integrated family planning services" which include counseling for teens. "Counselors can reinforce the idea that a person must be able to accept adult responsibilities before engaging in adult behavior."

Fredrickson says that more research is needed on possible solutions to the problem of teenage pregnancy. Communities especially need help in developing the most effective ways to support parents and teens.

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Note: Details on "Illegitimacy in Minnesota" are available in the Spring, 1980, issue of Sociology of Rural Life, Department of Rural Sociology, Classroom Office Building, University of Minnesota, St. Paul, MN 55108

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Source: G. Edward Schuh
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WORLD MEAT CONSUMPTION LIKELY TO RISE

World consumption of meats and other animal proteins is likely to rise rather than decline, a University of Minnesota agricultural economist says.

"We're far from exhausting the potential for economic growth on the world scene," says G. Edward Schuh, head of the University's Department of Agricultural and Applied Economics. "The doomsday crisis that has permeated many recent discussions of the world food problem is vastly over-drawn," he adds.

Schuh's remarks are contained in a paper to be presented at a conference on animal agriculture and human needs in the 21st century, May 5-9 in Boyne Falls, Mich. Purpose of the conference is to develop long range research policies for animal agriculture.

The potential for increasing agricultural output is good, especially in developing countries. Political and economic pressures will push developing countries to increase agricultural output, Schuh says.

However, high energy prices are posing new challenges for both policy-makers and farmers. "In the short-term, countries like the U.S. that are strongly dependent on energy may be at a disadvantage. In the long-term, the competitive position of U.S. agriculture will depend largely on how policy-makers deal with energy problems."

Another Minnesota agricultural economist, Wesley B. Sundquist, says that U.S. demand for food animal products faces both technical and economic problems. "These include food safety and nutritional issues plus inflationary pressures on consumer incomes.

"Continued growth in the fast food and restaurant business could favor some food animal products. However, a strong research program will be required just to retain the current demand level for food animal products, let alone to expand it."

Add one--world meat consumption

Recent changes in prices, consumer incomes and tastes have rendered much of the economic research on animal agriculture obsolete, says Sundquist. "We need some key research to update our information base on costs, profits, competitive relationships, and supply and demand factors for food animal products," Sundquist added. He's also scheduled to present a paper at the conference.

Schuh also addressed the issue of whether the consumption of livestock products by advanced countries is an important contribution to world food problems. "The basis of this criticism is that livestock products require a great deal more grain than if the grain were consumed directly.

"Although valid as far as it goes, the rhetoric surrounding this issue often neglects the fact that livestock can be important scavengers. They use grains, roughages, and other products that would otherwise be wasted and convert it into food."

Government policy hampers food production in many countries, says Schuh. "Much of the world's agricultural output is produced in the wrong place. This means a sizeable loss in resource efficiency, higher costs to consumers, lower incomes to farm producers in some countries, high costs to governments and taxpayers, and a reduction in average per capita income for the world.

"Government intervention and the rigidity of economic policy lead to 'shocks' in the international agricultural economy and impede adjustments to changing economic conditions.

"Consequently, international markets are subject to instability, the world economy faces periodic food crises and per capita income is lower than it would be if there were more liberal economic policies for the world as a whole.

"It's paradoxical that conference after conference is held to discuss the world food problem, but seldom do the participants in those conferences speak out against governments and what they do to their agriculture and to their people."

Schuh says there have been only two mass starvations in the world since World War II--a fact that many people overlook. They were the recent Cambodian problem and a period in the mid-1960's in India. "Both were perpetuated because the governments kept the problem secret," Schuh says.

Chronic malnutrition due to low income is a much more significant world problem. "World nutrition problems are caused by low income and not from lack of food production," Schuh says.

"It's very important that U.S. agriculture be viewed in a world context. When we talk about research priorities for animal agriculture we must talk about world agriculture and agricultural trade."

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TEST STATION BULL SALE AVERAGES \$797

A total of 103 bulls averaged \$797 at the recent Minnesota Central Test bull sale, according to Charles J. Christians, extension animal scientist at the University of Minnesota. The sale grossed \$82,125.

The \$797 average compares to \$1234 in 1979, \$770 in 1978 and \$660 in 1977. Higher interest rates and depressed cattle prices were probably responsible for the lower 1980 average, Christians says.

Average gain was 3.21 pounds per day while on test as compared to 3.09 pounds in 1979.

A Shorthorn bull consigned by the University of Minnesota, West Central Experiment Station and a Simmental bull owned by Jeff Sorenson, Ada, brought the top prices of \$1850. The Sorenson bull topped all bulls with a 4.61 pounds average daily gain while the University of Minnesota's Shorthorn bull gained 4.18 pounds per day for the 140-day test.

The top selling Angus bull was consigned by Mensch and Senne, Welcome, Minn., and sold for \$1800. This bull gained 3.46 pounds per day. The top selling Gelbvieh bull, consigned by Clair Sauer, Lewiston, sold for \$1100 and gained 3.79 pounds per day.

Limousin bulls consigned by Leonard Wulf & Sons, Morris, had the highest breed average sales price. The top Limousin bull sold for \$1700 and gained 3.57 pounds per day.

A Charolais bull owned by John Groen, Blomkest, topped all Charolais with an \$1150 price. This bull had a 3.46 pounds per day gain.

The Minnesota Central Bull Test is managed by Duane Pahl, Truman, and conducted by the Minnesota Beef Cattle Improvement Association. The test is supervised by C.J. Christians, University of Minnesota extension animal scientist, and Herman Vossen, area extension agent.

The next test will be conducted in November, 1980. For further information contact your local extension agent or the Minnesota Beef Cattle Improvement Association, 101 Peters Hall, University of Minnesota, St. Paul, MN 55108

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CARPETING IS SAFETY BOON TO THE ELDERLY

In addition to comfort and beauty, carpeting can add a safety plus to homes or apartments occupied by elderly persons. Sherri Johnson, extension textiles and clothing specialist at the University of Minnesota says the color and texture of carpeting can aid persons whose eyesight is dimming.

For example, a 60-year-old person needs two times as much light as a 30-year-old, so light-colored carpeting that reflects light can help an older person read, write and do close work. It also eliminates glare that could come from polished floors, causing vision problems for some older persons.

The choice of carpeting for an older person's home is important, however, Mrs. Johnson says. When two intense colors from brightly colored walls and floors meet, they can cause a jarring optical effect that could make it difficult for a visually-impaired person to distinguish floor from wall. A similar result is common when two surfaces of closely-related colors meet. Stairs covered with patterned carpeting can confuse the eye and make it difficult to distinguish individual treads.

"Plain carpeting, preferably in a rather light color, can aid the person with failing vision as well as provide a non-skid, cushioned surface if falls do occur," Mrs. Johnson adds. Research shows that plush style carpeting is a favorite because of the walking ease it provides. Consumer panels also rate it high because it is less likely to catch the heels of walkers or serve as a hiding place for needles and pins.

Carpeting is also a proven energy saver and it can muffle sounds, making apartment living more pleasant. Mrs. Johnson says, "By using carpeting to insure safety and to enhance the visual comfort of a residence, a person can help create a more pleasant environment for an older person."

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CREDIT CARD USERS
FIND GAME RULES CHANGING

If you are a credit card holder, you may have some surprises in store for you. The rules of the credit card game are changing along with the laws that govern creditors.

Dottie Goss, extension family resource management specialist at the University of Minnesota, says many credit card companies and retail stores are not accepting new credit customers and others are raising their income limits for new customers.

In addition, some companies are increasing the minimum payment required on outstanding accounts. Others are limiting the amount that can be on an account at one time or are shortening the "grace period" before finance charges begin.

Goss says, "Most retail companies are now raising the finance charges to 16 percent annually as is now permitted under Minnesota law. Also some companies are closing accounts that are delinquent."

Despite the changing rules, consumers retain some rights and options. Retailers must give 30 days notice when tightening credit terms, according to Goss. This includes such changes as additional finance charges, reduced grace period and increased minimum monthly payments.

If you receive notice of such changes in an account, you have the option of repaying any outstanding balance under the old terms. If you choose to do this, however, you may not add any additional charges to the account. If you charge new purchases after receiving notice of the changes, you must accept the new terms for both those new purchases as well as any old charges on the account.

"This is a time when consumers should carefully consider their credit use," Goss says. "They face increased costs for credit use, less credit available on any one account, fewer accounts available to them, larger minimum payments and greater risk of losing an account if it becomes delinquent."

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ASPARAGUS SEASON APPROACHES
SO BRUSH UP FREEZING TECHNIQUES

Homegrown asparagus will soon be with us, to be followed in short order by many other garden goodies. Shirley Munson, extension horticulture specialist at the University of Minnesota, reminds gardeners who freeze their bounty that blanching vegetables is necessary to preserve nutrients and flavor.

She recommends boiling water blanching because most household equipment for steam blanching doesn't provide a satisfactory blanch.

Like all vegetables, asparagus retains its quality best when processed and frozen with minimal delay. Mrs. Munson recommends bringing the blanching water to a boil quickly and keeping the blanching period as short as possible. Consult a freezing guide or obtain information from your local county Agricultural Extension Service office for precise blanching times.

For most vegetables, use one gallon of boiling water for each pound of vegetables. Submerge the clean, prepared vegetables in the boiling water using a wire basket. Cover the kettle and, with the heat on high, blanch for the recommended period. Once the time is right, place the vegetables immediately into cold, running water or ice water. You may use the blanching water again, but keep the level up and change it if it becomes cloudy.

If asparagus will be your first freezing venture of the season, select brightly colored stalks that snap when broken and have compact tips. Mrs. Munson recommends Martha Washington, Mary Washington and F₁ hybrid varieties for good freezing.

Begin by discarding woody, blemished stalks and breaking off the fibrous ends. Wash the stalks thoroughly in cold water and sort by size into medium and large stalks. Asparagus can be packed whole or cut into one or two inch lengths.

Blanch medium stalks for three minutes: large stalks for four minutes. Chill in running cold or ice water, drain, package, label date and freeze.

Store asparagus no longer than nine to twelve months at 0° F or lower, Mrs. Munson suggests. Asparagus stored at higher temperatures or for too great a time period will develop an undesirable flavor.

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DON'T LET A LAWNMOWER CUT
YOUR SPRING, SUMMER SHORT

Nearby toes and fingers are little match for rotary power mower blades making more than 2,000 revolutions per minute. Robert Aherin, extension safety program specialist at the University of Minnesota, says blade tips whirring at about 200 miles per hour will cut or throw almost anything in their path.

He urges lawnmower operators to follow safety tips or risk having summer fun turn into a nightmare.

First, Aherin says, always disconnect the spark plug wire before checking the blade. Turning the blade with the spark plug connected is the same as pulling the starter rope. Before mowing, inspect the area for toys, stones and wire that could become deadly missiles, and as you're mowing, keep looking three or four feet ahead of the mower so it can be stopped before the blades pick up objects.

When refueling, be sure your mower is shut off and cool or the vapors could be ignited by a hot manifold or a spark from the spark plug. Refueling should be done outdoors and stored gasoline should be in a properly labeled safety can, Aherin advises.

To start a mower, place one foot firmly on the ground and the other on top of the blade housing deck. Give the starter rope a steady pull and never leave a running mower unattended. Electrically-powered mowers should not be used in the rain or when the grass is wet.

Aherin says children shouldn't be permitted to operate a power mower until they are strong enough to control it and well enough informed to use it safely. People and pets should stay completely out of the area where a mower is operating and the operator should stay behind the machine at all times because objects are thrown to the side. Never carry riders on riding lawnmowers, he cautions.

Safety toed shoes are ideal, but any sturdy leather shoe is preferable to tennis shoes, sandals or bare feet, Aherin says.

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SEWING WITH SHEERS
CALLS FOR SPECIAL CARE

Summer suggests a return to sheer, airy fabrics. To insure that sewing with these fabrics is as pleasant as wearing them, Sherri Johnson, extension textiles and clothing specialist at the University of Minnesota, offers these suggestions:

- * Use very sharp scissors for easy, accurate cutting.
- * Use new sewing machine needles, size 9 or 11 all purpose or ballpoint.
- * To prevent puckering, choose long staple polyester, silk or other thread made especially for lightweight fabrics.
- * Choose lightweight zippers.
- * Use organdy, sheer non-wovens or self-fabric for interfacing.

Mrs. Johnson also suggests pinning or taping slippery fabric to the cutting surface or to an old sheet when you are laying it out.

When your garment is ready for machine stitching, use a small hole throat plate or place pieces of tape on either side of the hole to prevent slipping. Be careful not to stitch over pins. Select a short stitch length and loosened tension.

Seams and darts should be narrow and inconspicuous on sheer fabric. Use a French seam on straight seams or a double-stitched seam on curves. At collar and cuff edges, sew a nearly invisible hairline seam by stitching over a filler cord of pearl cotton or crochet thread with a fine zigzag. Then trim up to the stitching, turn and press.

Hems should be either very deep or very narrow. A double hem four to six inches deep works well on a straight edge, according to Mrs. Johnson. A hand-rolled or narrow topstitched hem is suited to curved edges.

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STRE-E-E-E-TCH YOUR COOLING DOLLARS

If your budget is still reeling from winter heating bills, you will want to trim your summer cooling expenses to a minimum.

Roger Peterson, extension residential energy specialist at the University of Minnesota, suggests some simple, no-cost steps consumers can take immediately to get more from their "beat-the-summer-heat" dollar.

HIGHER THERMOSTAT

Keeping your air conditioner thermostat at the highest comfort setting will reduce your energy consumption from three to ten percent for each degree the thermostat is raised.

When it's particularly warm outside, turn the thermostat up even higher to keep from overworking the air conditioner. Greatest air conditioner efficiency results when the homeowner keeps no more than 15 to 20 degrees difference between inside and outside temperatures.

FANS TO THE RESCUE

Either by themselves or along with air conditioning, fans can make summer more comfortable while still saving energy. Even with windows closed during air conditioning, a fan will circulate interior air and make you more comfortable at higher thermostat settings.

A one-ton air conditioner costs about seven cents an hour to operate while a fan runs for less than one cent an hour. And research shows that people in an 82° F. room with a fan circulating the air feel as comfortable as if the air conditioner were set at 74 degrees.

SHADE YOUR WINDOWS

Windows transmit most of the radiant heat they are exposed to, so block out as much heat as you can on the sides of the house that get direct exposure. Draw shades or draperies on the east side in the morning and on the west side in the afternoon to reduce the heat your air conditioner must remove.

add one--cooling dollars

REMOVE OBSTRUCTIONS

Overgrown shrubs, weeds and grass growing close to an air conditioner's condenser unit can restrict the flow of air and impair the unit's efficiency. Shrubs and trees that shade the unit, however, help keep it from getting too hot.

INVESTING IN COOLING

A number of investments can yield sizeable long-term energy benefits. These include:

- * adequately insulated floors, walls and attic space
- * weatherstripped doors and windows and caulked cracks around windows and the foundation of your house
- * sun-control devices such as awnings, louvers or reflective films
- * properly sized air conditioning equipment with an efficiency rating (EER) of 8.0 or better

If you are considering an investment in air conditioning, Extension Folder 394 "Air Conditioner Efficiency" offers consumer tips for buying and operating cooling units. It is available from your local county Agricultural Extension Service office or by writing to the Bulletin Room, 3 Coffey Hall, University of Minnesota, St. Paul, MN 55108.

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FOOD BRIEFS

Working to Eat

Americans work fewer hours for the money to buy most food items than do people in most countries.

In 1978, the average Washington, D.C. wage earner worked one hour and 27 minutes for the money to buy a pound of white bread, a pound of bacon, a pound of sirloin steak, a pound of pork chops, a dozen large eggs, a pound of tomatoes, a pound of broiler chicken, a dozen oranges and a pound of butter.

Workers in Canada average better -- only one hour and 24 minutes. Japanese workers, however, fare the worst of any of the countries surveyed. It took them seven hours and 15 minutes to earn enough grocery money for those items.

* * *

Food Ads Increase

Advertising in the food industry is on the increase. It amounted to about \$3 billion in 1978, doubled over its total ten years ago.

One of the largest increases in advertising has occurred in the away-from-home eating category. This is due to the growth of national fast food chains. McDonald's Corporation, for example, now ranks third among food advertisers and 20th among all advertisers.

Another reason for the rising expenditures for advertising is the switch from print advertising to a more costly combination of print and broadcast messages.

* * *

Three Cheers for Broccoli

The foods that top the list on nutritional value, may not always score well on our list of food favorites. A recent study ranked nutritional value of various fruits and vegetables along with their contribution to nutrition based on the amount produced and eaten.

Broccoli headed the list in nutritional value, but it ranked 21st in its contribution to nutrition based on consumer eating habits. Spinach was second in nutrition, but it also failed to make the "top 10" in contribution to our overall nutrition based on how much is eaten. Of all vegetables, peas came the closest, ranking 15th in nutritional value.

add one--food briefs

The top contributor to nutrition based on popularity with consumers was tomatoes, but they ranked only 16th in vitamin and mineral content. Oranges were the second greatest contributor to nutrition, but they fell even further on the nutrients' ranking -- to 33rd place.

* * *

\$ Value of Our Food

A recent U.S. Department of Agriculture survey reveals some interesting trends about our spending patterns for food:

* As the income of households increases, the value of food eaten both at home and away also increases.

* As household size increased, money value of food per household increased, but money value per household member decreased.

* About 85 percent of the meals eaten by household members were from home food supplies, 11 percent were bought and eaten away from home, and 4 percent were eaten away from home without direct expense to the household -- as a guest, free school meals or payment for services.

* A meal bought and eaten away from home averaged 2.6 times as expensive as a meal at home.

* A meal away from home cost more in the Northeast and West than in the North Central and Southern regions of the country. Meals also cost more in metropolitan than in nonmetropolitan areas.

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SOME FOOD ADVERTISING, SIGNS
CAN MISLEAD THE UNWARY

There's a word game being played out there, and you could be an unwitting participant, warns Mary Darling, extension nutritionist at the University of Minnesota. Food advertising and store signs and posters can mislead you.

She cautions shoppers that there's no legal definition of a "health food" or of an organic or natural food. Although there has been a lot of discussion, the federal government does not regulate the use of these emotionally charged words.

Such terms suggest many things they cannot deliver, and you may end up paying more because a product boasts "natural" or "organic." Ms. Darling says, "All persons -- but particularly those on low or fixed incomes -- need good nutrition from their foods, not from deceptive promises."

Foods claimed to be health items, organic or natural do not contain better or extra nutrients, Ms. Darling says. They may not be freer of chemicals or contaminants than any other food. And, most important, they have no healing or protective powers beyond what all foods have. Foods provide the body with nutrients to maintain itself. Health, organic or natural foods do this too, but almost always at an inflated price.

This needn't mean that such foods should be boycotted altogether, Ms. Darling says. "If someone wants to use these foods for a specific taste or texture and can afford them, some of them make interesting and nourishing additions to the diet," she says. "They increase the variety of your food choices."

Foods sold as health foods contribute to health when used as part of a balanced diet, but not necessarily more so than other foods. Ms. Darling adds, "Nearly all foods are 'health foods' in that they contribute nutrients to general health regardless of where you buy them or what they are called. Shop carefully."

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FRESH-CAUGHT FISH?
KEEP IT AT ITS PEAK

If you have fishing enthusiasts in your family, you may now be faced with many meals' worth of the finned creatures. Stored and handled properly, they can provide delicious eating in the months ahead.

Mary Darling, extension nutritionist at the University of Minnesota, suggests freezing any fish that can't be used within a day or two of being caught. When freezing fresh fish, wrap it tightly in a plastic cling wrap. Small fish or fillets are best layered between sheets of the plastic wrap so you can remove as much as you need from the package and keep the rest frozen.

Place the plastic-wrapped fish in a plastic bag or wrap well with a moisture-vapor-proof freezer paper. Lightweight aluminum foil is a poor choice for wrapping because it can become brittle and tear off frozen packages, Ms. Darling says.

Freezing fish in a milk carton is a common practice, but it may not give the best results. Ms. Darling says the fish can lose flavor and moisture by being stored in a block of ice, and it is also impossible to separate individual fish without thawing the entire block.

At 0° F. or lower, fat fish such as trout keep well for about three months; lean fish, for about six months.

Thaw fish safely in the refrigerator, or, for quicker thawing, place packages in cold water for one or two hours. Ms. Darling advises against placing the fish directly in cold water because flavor can leach out of the flesh.

Never thaw fish at room temperature or in warm water. Moisture and flavor will be lost, and you will risk growth of bacteria if fish are held at a warm temperature for a long time.

Once fish is thawed, use it immediately for best flavor. Leftover cooked fish should be refrigerated and used within two to three days, Ms. Darling says.

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and Agricultural Journalism
Agricultural Extension Service
University of Minnesota
St. Paul, Minnesota 55108
Tel. (612) 373-0710
May 19, 1980

Source: Mary Darling
(612) 376-4663

Writer: Deedee Nagy
(612) 373-1781

TEMPTED BY DIET-OF-THE-MONTH?
HERE'S A WAY TO JUDGE MERITS

The anti-cancer diet! The stay-young diet! The painless all-you-can eat diet!

There are nearly as many cure-all diets as there are slick promoters to endorse them. Mary Darling, extension nutritionist at the University of Minnesota, says its difficult for consumers to avoid the temptations of the many diets promoted in the media.

"Tune in a television or radio talk show and soon, some guest will claim that a vitamin or special food is a weapon against disease or aging," Ms. Darling says. "Monthly magazines make similar claims, and each month there is a new diet claiming to be the newest easy solution to a health problem."

She cautions consumers to look carefully at the kinds of foods these diets include. Any diet that omits certain groups of foods can be harmful because it is unbalanced. It cuts into the nutrients the body needs to maintain good health.

For example, she says, a diet that omits milk products, claiming to prevent hardening of the arteries, reduces calcium in the diet. This could put the dieter at risk of bone disease as he or she ages.

How can you sort through all the diet claims? Ms. Darling offers this checklist of questions. A "yes" answer to any of these means that the diet's claims are probably more exaggerated than real.

* Does the diet omit or limit one or more of the four food groups?

(The four food groups are milk products, fruits and vegetables, breads and cereals, and protein foods such as meat, fish, dried beans and nuts)

* Does the diet claim that a single food or group of foods will guarantee good health?

* Are vitamins substituted for foods?

* Are persons making testimonials about the diet's health benefits?

* Do you have to buy something from the person or company that advocates the diet?

* Is a miracle or quick and easy method claimed?

* Are claims made to cure a variety of health problems?

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TRENDY FOODS ARE INTERESTING,
BUT SELDOM NUTRITIONAL BONANZAS

Greta Garbo dined on wheat germ during the filming of her "talkies." Comedian Eddie Cantor patronized a health spa that pushed yogurt. The Duchess of Windsor introduced blackstrap molasses as a wonder food to the French people.

Each of these well known persons helped promote a food, believing it had special health-giving nutrients. What they neglected to add, however, was that the same nutrients were available then, and still are today, in less costly, more familiar foods, according to Mary Darling, extension nutritionist at the University of Minnesota.

Wheat germ, for example, is a good source of B vitamins and iron, but whole wheat breads and enriched white breads are also excellent sources. So are fortified cereals, both ready-to-eat and hot. Wheat germ's protein, however, is inferior to meat and milk proteins.

Ms. Darling adds that a dairy food such as yogurt can add taste variety to your diet, but you needn't feel you have to buy yogurt to get special nutrients your body needs. Yogurt's food value -- a good source of calcium and protein -- is the same as that of an equal amount of milk. And like other dairy foods, yogurt is the source of very little iron or vitamin C.

Blackstrap molasses will give you a day's iron needs in 4 tablespoons, but you would have to down 5 cups of it to get all the vitamin B₁ you need. That's more than 3,000 calories, and you still wouldn't get any protein or fiber, according to Ms. Darling.

She says, "There are more than 40 known nutrients and no one food has all of them, despite occasional testimonies to the contrary. It's not a specific food, but rather a variety of foods that keeps people healthy."

She advises consumers to look warily at claims made by entertainers or sports personalities. Check the sources of your nutrition information for their training in nutrition or other related fields, she suggests.

If you need nutrition information or want to check out a new nutrition idea or trend, Ms. Darling suggests contacting a local nutritionist or dietician, a county extension home economist or a public health nutritionist.

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Agricultural Extension Service
University of Minnesota
St. Paul, Mn. 55108
May 19, 1980

SOURCE: Bob Aherin (612) 373-0764
WRITER: Kathy Chesney (612) 373-0714

RURAL EMERGENCY PROGRAMS FEATURED
AT MINNESOTA SAFETY CONFERENCE

Persons attending the Minnesota Safety Conference will get a look at rural emergency response programs in the state May 29 at the St. Paul Radisson Hotel.

Representatives of four state emergency response programs will outline the responsibilities, capabilities and limitations of their agencies at the Thursday morning session. The four types of emergencies to be discussed are fire, natural disaster, medical rescue, and fertilizer and pesticide.

"The representatives will discuss how their agencies interact with other state agencies during rural emergencies," says Bob Aherin, University of Minnesota extension safety specialist. "Those attending will have the opportunity to ask questions and express their concerns about these programs."

The rural emergency response sessions are part of the 1980 Minnesota Safety Conference to be held May 29-30. Other sessions will deal with safety programs for small businesses and safety in an energy-conscious environment.

The Agricultural Extension Service is a sponsor of the conference, and Aherin was chairman of the committee that planned the rural emergency response sessions.

Registration costs \$25 each day with luncheon and \$20 without. Those who attend both days pay \$60 for registration, luncheons and a banquet. There is no registration fee for retired persons or students under 18 years-of-age if they pre-register. For details, contact the Minnesota Safety Council, 145 Hamm Bldg., St. Paul, Minn., 55102, (612) 291-9150. The conference is open to interested persons regardless of race, creed, color, sex, national origin or handicap.

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Tel. (612) 373-0710
May 19, 1980

Contact: Jack Sperbeck
(612) 373-0715

SOYBEAN PRODUCERS TO FUND
MINNESOTA SOIL EROSION STUDY

ST. PAUL, MN -- A University of Minnesota research project aimed at controlling soil erosion has been selected for funding by the American Soybean Association Research Foundation (ASARF).

The research is expected to show how soil properties on land where soybeans are produced are different from those on land where corn is grown. Scientists hope to learn how those differences create special soil erosion problems for soybean producers.

George R. Blake, soil physicist in the Soil Science Department of the University of Minnesota will head the project, which is being funded by a \$45,000 grant by soybean producers over the next three years. Blake's project is one of 17 projects being funded by the ASARF in 1980.

Although some research has been conducted on soil loss where soybeans are grown, the effects of soybean production as opposed to other crops on soil properties is not well known. Blake's research is aimed at learning the effects of canopy and the plant itself on soil properties involved in the erosion process.

"Soybeans have a dense canopy that reduces the impact of rainfall and affects its distribution," says Blake. "The canopy also reduces the effects of radiant energy so vital to surface evaporation, soil temperature and probably to surface micro-organism activities. We plan to simulate the soybean canopy on small plots using inert materials. Then we'll compare the resulting soil characteristics with soil where soybeans are growing.

"The research will also study soil properties on land where corn is grown and compare that soil with properties of soil where soybeans are grown," he says. "We'll perform several kinds of tests including soil strength, shear strength, density and porosity.

Findings from the soil erodability study are expected to provide a better understanding of the causes of soil erosion in soybeans. As a result, scientists will be able to recommend soil management and crop rotation practices that will help reduce erosion problems and assure soybean producers will have adequate productive soils for the foreseeable future.

add one--soybean procedures

In the past eight years, ASARF has supported over \$2 million of soybean research. Projects selected by funding by ASARF are submitted by researchers across the nation and reviewed by specialists in soybean production and utilization. A nine-member board of soybean producers makes the final selection of projects to be funded based on the recommendation of the review committee.

Project proposals are selected for funding based on their potential for reducing production costs for the farmer and improving or finding new uses for soybeans and soybean products. Funds for investment in soybean research are provided by soybean producers through their state grower investment checkoff programs and by support from private corporations.

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University of Minnesota
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Tel. (612) 373-0710
June 2, 1980

Immediate release

FOOD BRIEFS

Plentiful for June... Pork, broiler-fryers, turkeys, eggs, milk and other dairy products are expected to be in particularly heavy supply during June, according to U.S. Department of Agriculture marketing specialists. Consumers can expect attractive prices on many of these foods.

In addition to locally grown garden produce that will begin to appear in supermarkets, shoppers will find good supplies of sweet cherries, peaches, plums, apricots and citrus fruits. Raisins and prunes will also continue in plentiful supply after a bumper crop last year.

* * *

Dairy Delights... June is Dairy Month, a good time to remember the appeal and nutrition that dairy foods bring to your table. To be sure that your family receives enough milk in daily meals, serve it in puddings, soups and creamed dishes as well as for a beverage.

Here are some cooking equivalents for often-used dairy products:

1 cup sour milk == 1 cup cultured buttermilk OR 1 tablespoon lemon juice
or vinegar plus enough milk to make 1 cup. Let stand
5 minutes.

1 cup heavy cream == 1/3 cup butter plus 3/4 cup milk. For cooking only,
not whipping.

1 cup whole milk == 1/2 cup evaporated milk plus 1/2 cup water or 1 cup
reconstituted nonfat dry milk plus 2 1/2 teaspoons butter.

2 cups whipped cream == 1 cup whipping cream

* * *

Of Mice and Men... Mice aren't the only cheese fans. Americans are eating more cheese each year, and it is providing them with calcium, vitamin A and protein. For the calorie counter who wants to know which cheeses are lowest in calories, here is a comparison chart of some popular types:

Cheddar cheese	(1 oz.) 115 calories
Creamed cottage cheese	(1/2 cup) 127 calories
Cottage cheese	(1/2 cup) 63 calories
Grated parmesan cheese	(1 Tbsp) 25 calories

add two--Food briefs

Hello, Summer Fruits... Those summer favorites, peaches, pears and plums, soon will be available in local supermarkets and at produce stands. Nutritionally, peaches, nectarines and yellow-fleshed plums are good vitamin A sources. If you plan to use pears, nectarines or peaches in fruit salads, keep them fresh-cut looking longer by dipping pieces in lemon juice or a commercial ascorbic acid mixture immediately after cutting.

Dieters can rejoice in the fruits of summer. There are about 38 calories in a medium size peach, 33 for the average plum, 65 in a nectarine and less than 100 in an average size Bartlett pear.

To peel these fruits more easily, submerge them in boiling water for about 30 seconds, remove and dip quickly in cold water. The skins will slip right off.

* * *

Baked Bean Season Begins... Beans have a reputation for being humble fare, but when dressed up with spices, tomato sauce and brown sugar or molasses, they're princely picnic stars. Plus, beans are an inexpensive source of proteins. If served along with grains (rice or whole grain bread), the quality of the protein is improved considerably.

Except for split peas and lentils, all dry beans need lengthy soaking. The quick method described below can trim time off your picnic preparation, however.

* Overnight soaking -- Wash beans, sort, place in kettle in which you will cook the beans. Cover with four cups water to one cup of beans. Cover and let stand at least eight hours. Use soaking water for cooking.

* Quick method -- Follow directions for overnight method, but instead of soaking, bring water and beans to a boil and cook for two minutes. Cover and remove from heat. Let stand one hour. Beans are then ready to cook.

Have you tried eating soybeans? Any field beans are edible, but some varieties are tastier than others. Immature green soybeans need no presoaking and only a short cooking time. Dry soybeans should be soaked by one of the methods above and then cooked slowly for at least three or four hours. Cooked soybeans freeze well and hold their shape when thawed. Mashed cooked soybeans can be seasoned and used as a sandwich spread or added to ground beef as an extender for patties, meatloaves or casseroles.

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June 2, 1980

FASHION TRENDS FOR FALL:
CLASSIC, PREPPY AND WARM

It's not too early to begin planning your fall wardrobe additions, particularly if they will come via your sewing machine. Sherri Johnson, extension textiles and clothing specialist at the University of Minnesota, says the fashion forecast for fall and winter will focus on quality fabrics, classic styles and clean colors.

Remember the shirtwaist dresses, shetland sweaters and tartan plaid skirts of the early 1960s? Renamed the "preppy" look, these styles will stage a comeback, Mrs. Johnson predicts. These clean, classic styles are part of a move toward "investment dressing."

She explains that inflation's bite has taken away some consumers' abilities to experiment with faddish styles. "The economic situation has resurrected the idea of wardrobe building," Mrs. Johnson says. "A few good skirts, a well-tailored blazer and some pretty shirts will combine and recombine to create many outfits, and each year the consumer can add a few pieces for a fresh new look."

The energy shortage will make itself felt as well. Sweaters, vests and lined jackets will be popular. Although skirts will enjoy great popularity, pants will be with us too.

Fabrics with a warm feel and look to them will dominate. Expect to see fashions in quilted fabric, suede-looks, fur blends, corduroy variations and tweeds. Velours and the classic wools will also find favor, according to Mrs. Johnson.

Traditional, conservative stripes, checks and small designs are the big news in prints. Mrs. Johnson says the swing away from florals and toward the classics is because so many prints will be used for under-suit blouses where a tailored look is needed.

Jewel bright colors are the word for fall. They will be clean and rich and often combined with black or white for contrast. Gray will be popular as well as all shades of purple and teal blue.

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June 2, 1980

IRRIGATION RESEARCH
TO BE DEMONSTRATED
JULY 9 AT BECKER

The Sand Plain Field Day featuring research and demonstrations on techniques for irrigation will be held July 9 at the University of Minnesota Sand Plain Irrigation Farm near Becker in Sherburne County.

Among the researchers and specialists on hand will be horticulturists and agronomists from the University of Minnesota who will provide assistance with weed identification, control and herbicide practices.

The program will start at 9 a.m.. Research to be discussed and demonstrated will include:

- Soybean varietal testing, soybean inoculation and nitrogen fixation
- Reduced tillage and other energy and soil and water conservation practices adaptable to sandy soil
- New and uncommon crops including adzuki beans, dry beans and peas
- Trials on common garden vegetables
- Nitrogen rates, timing of application on corn and the use of inhibitors to minimize leaching under irrigation
- Potato breeding, selection, spacing and diseases
- Pest and environmental stresses.

For further information, contact your local county Agricultural Extension Service Office or Curt Klint, area agriculture specialist, (612) 755-1281 or Evan Allred, professor of agricultural engineering at the University of Minnesota, (612) 373-1342.

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June 9, 1980

HOME FOOD DRYING:
LEAST DESIRABLE
PRESERVATION METHOD

Food drying is one of the oldest food preservation methods, but that doesn't mean that home food drying is necessarily for you, say two extension specialists at the University of Minnesota.

Isabel Wolf, extension foods and nutrition specialist, and Wanda Olson, extension household equipment specialist, note a resurgence of interest in home food drying. Counter top dehydrators and convection ovens are now available to make the job easier at home, but Mrs. Wolf still sees drying as the least acceptable home preservation method.

"One of the biggest problems in drying food at home is determining when it is sufficiently dry and then storing it so it doesn't pick up moisture from the air," Mrs. Wolf says.

Nutritionally, home dried food also lags behind. "There has been very little research done on the nutritional quality of home dried food," Mrs. Wolf says. "What research has been published shows that drying can result in significant vitamin losses, particularly if vegetables are not blanched or fruits are not treated with antioxidants."

Properly pretreated frozen foods have the highest nutritional value of home preserved foods, she says. Canned foods suffer greater nutrient loss than frozen foods, and dried foods lose even more. Nutrient loss is greatest yet when home dried foods are stored in warm places, in the presence of moisture or in direct light, she adds.

Although she doesn't advise home food drying for general home food preservation purposes, it can be useful for short-term preservation for campers, hikers or others

add 1--Food Drying: Preservation

who need lightweight, non-perishable food. Mrs. Wolf says some home food drying enthusiasts make claims that dried foods are good almost indefinitely. This is false, she says. Maximum storage time for dried food is six months at room temperature, and some foods should be used within one or two months. Lower storage temperatures prolong the shelf life of home dried foods. To keep home dried items for as long as a year, for example, they should be well sealed and then stored in the freezer, she suggests.

In addition to preserving food for only a short time, the home food drying process is lengthy. Mrs. Wolf and Mrs. Olson report that preliminary research done at the University of Minnesota shows that it takes up to three hours to dry a pound of food (fresh weight). A large, fully loaded dehydrator could take as long as 20 hours to dry its contents.

Mrs. Wolf cautions, "If you do decide to dry foods at home, avoid days with high relative humidity. Under damp conditions, it is nearly impossible to get foods sufficiently dry."

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CA, 4-HE-I-II

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Tel. (612) 373-0710
June 9, 1980

HOME FOOD DRYING:
NO ENERGY SAVINGS
OVER CANNING, FREEZING

Some food drying enthusiasts make claims that drying is the most energy efficient food preservation method. Not so, state two extension specialists at the University of Minnesota.

Wanda Olson, household equipment specialist, and Isabel Wolf, foods and nutrition specialist, point out that on the basis of cost per pound of food, canning is the most efficient food preservation method. And although freezing is sometimes criticized as consuming the most energy, it may be as economical as drying if your freezer is an energy-efficient model.

Mrs. Olson reports that preliminary research conducted at the University of Minnesota showed it took about three hours of time and one kilowatt hour of electricity to dry each pound (fresh weight) of food. A kilowatt hour costs between four and five cents in most areas of Minnesota.

By comparison, canning tomatoes required about .2 kilowatt hour of electricity per pound of food, or about one cent per pound. The energy costs for freezing must take length of freezer storage into account, but Mrs. Olson has calculated that freezing and storing a pound of produce at 0° F for six months would take between 3/4 and 1½ kilowatt hours of electricity (about 3½ to 7 cents) depending upon how energy efficient the freezer is.

These energy costs for freezing and storing food for six months are similar to the energy costs for drying. Freezer storage costs were based on the range of estimated operating costs for new 15 cubic foot freezers.

-more-

add 1--Food Drying: Energy

Mrs. Wolf reminds consumers that many dried foods stay at peak quality for no more than six months if stored at room temperature. Once food is dried, it can be kept successfully in a freezer for a year. The combination of drying and then freezing uses less energy than freezing and storing fresh food for 12 months.

Figuring the cost of any food preservation method is tricky, Mrs. Olson concedes. To be fair, calculations should include the costs of packaging and ownership of the equipment, life expectancy for the appliance used and even finance charges that the consumer is paying on a freezer, food dryer or convection oven used for drying.

"Plus, there are many intangible factors to weigh in deciding how to preserve food," Mrs. Olson adds. "Energy costs are one consideration, but most consumers would also need to decide which method best meets the needs and tastes of their family members."

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CA, 4-HE-I-II

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June 9, 1980

Contact: Jack Sperbeck
(612) 373-0715

(Agents/Directors: You may want to add biographical information about the person being promoted to make the story more complete)

AG. EXTENSION SERVICE
PROMOTES LOCAL STAFFER

_____, _____ County
(name of agent) (name of county)

Agricultural Extension Service staff member has been promoted from

_____ to _____
(old title) (new title)

effective July 1.

Promotions went to 42 county and area agents throughout the state in addition to 12 members of the St. Paul campus-based University of Minnesota extension staff.

1980 PROMOTIONS

TO PROFESSOR FROM ASSOCIATE PROFESSOR

Fred J. Benson, Extension Economist, Farm Management
Frederick G. Bergsrud, Extension Agricultural Engineer
Terrance Courneya, Pennington County Extension Director
Ralph Farnsworth, Extension Veterinarian
Mervin L. Freeman, Area Extension Agent, Farm Management
Barbara Jessen-Klixbull, East Polk County Extension Agent
Paul L. Larson, Area Extension Agent, Community Resource Development
Allan D. Lerner, Extension Swine and Health Specialist
Jane P. McKinnon, Extension Horticulturalist
Harriet E. Meldahl, Area Extension Agent, Rehabilitation
Mary Ellen Miller, Mower County Extension Agent
Burton P. Olson, Benton County Extension Director
Harold Scholten, Extension Forester
Dennis D. Seefeldt, Assistant District Director
Lawrence Simonson, Extension Specialist Tourist Service
Elmo Skaar, Isanti County Extension Director
Donald F. Vollman, Cass County Extension Director

add one- 1980 Promotions

TO ASSOCIATE PROFESSOR FROM ASSISTANT PROFESSOR

James W. Bauder, Assistant Extension Specialist, Soil Management Tillage
Jeremiah E. Fruin, Community Resource Development
Gary A. Hachfeld, McLeod County Extension Director
David J. Kjome, Olmsted County Extension Director
Peggy J. Korpela, Crow Wing County Extension Agent
Roger A. Lind, Jackson County Extension Director
Susan S. Meyers, Extension Specialist Family Life
LaVonne H. Misner, Urban Extension Agent
David M. Noetzel, Extension Entomologist
Kathleen A. Olson, Goodhue County Extension Agent
Juanita J. Reed, Extension Specialist, 4-H Youth Development
Jared M. Smalley, Acting Assistant District Extension Director
Raymond B. Thompson, Marshall County Extension Director
Noel L. Zaffke, Marshall County Extension Agent

TO ASSISTANT PROFESSOR FROM INSTRUCTOR

Janet E. Beyer, Winona County Extension Agent
Neil Broadwater, Winona County Extension Director
Sheila M. Craig, Fillmore County Extension Agent
Robert D. Ellerbusch, Marshall County Extension Agent
William Heltemes, Benton County Extension Agent
Catherine J. Huebner, Stevens County Extension Agent
Linda R. Jacobson, Steele County Extension Agent
Linda J. Johnson, North St. Louis County Extension Agent
Marianne Kibler, Blue Earth County Extension Agent
Duane A. Kuss, North St. Louis County Extension Agent
Marlene J. Lund, Goodhue County Extension Agent
Thomas L. Melin, Norman County Extension Agent
Robert M. Olen, South St. Louis County Extension Agent
Barbara J. Oseth, West Polk County Extension Agent
Kenneth J. Pazdernik, Norman County Extension Agent
Jeanette B. Pitt, Aitkin County Extension Agent
Robert B. Quinlan, East Polk County Extension Agent
Carolyn J. Robotham, Itasca County Extension Agent
Linda J. SaImela, South St. Louis and Lake Counties Extension Agent
Cindy M. Schultz, McLeod County Extension Agent
Yvonne Steinbring, Rice County Extension Agent
Sharon K. Torbenson, Becker County Extension Agent
James T. Winkler, Benton County Extension Agent

FROM ASSOCIATE COUNTY EXTENSION AGENT
TO COUNTY EXTENSION AGENT

Dorothy Hingeveld, Swift County
Howard Person, Pennington County
Debbie Peterson, Grant County
Paula Pohmeier, Douglas County
Harlan Rosendahl, Douglas County
Kenneth Schwinghammer, Carver County
Jeff Walker, Houston County
Julie Wilfahrt, Steele County

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Tel. (612) 373-0710
June 9, 1980

Source: Charles Christians
(612) 373-1166

Editor: Jack Sperbeck
(612) 373-0715

BEEF CATTLE CONFERENCE
AT MORRIS JUNE 24

A beef cattle conference designed for all interested beef producers will be held June 24 at the West Central Experiment Station, Morris, starting at 9:30 a.m.

Keynote speakers include James Shirley, National Shorthorn Association secretary, and Greg Martin, American Limousin secretary. They'll talk about using performance bulls to upgrade your herd and selecting profitable beef cattle.

Station superintendent Ralph Smith will present performance findings of various feedlot cattle structures and design. Animal scientist Harley Hanke will present results of the Experiment Station Shorthorn cow herd.

An afternoon tour will be taken of the Leonard Wulf Limousin cow herd and cattle feedlot. Feeding, breeding, A. I., and management programs will be evaluated.

The day's activity will climax with the Minnesota Beef Cattle Improvement Association Awards Banquet at the Sunwood Inn. The 1980 Outstanding Beef Performance Men of the Year will be honored. For further information, contact your extension director or Charles J. Christians, Extension Livestock Specialist, University of Minnesota, 101 Peters Hall, St. Paul, MN 55108 (612) 373-1166.

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Agricultural Extension Service
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Tel. (612) 373-0710
June 16, 1980

Source: Clifton Halsey
(612) 373-1060

HEAVY RAINS EMPHASIZE NEED FOR CONSERVATION

Recent heavy rains caused serious erosion in southern Minnesota, according to Clifton Halsey, University of Minnesota extension conservationist. Experienced conservationists say that rill erosion means an average annual soil loss of at least 13 to 15 tons per acre. This is 3 or more times above acceptable erosion rates if the soil's productivity is going to be maintained on a long-term basis.

Farmers whose fields are eroding are losing valuable plant food for their crops. As the topsoil erodes, more and more heavier-textured subsoil is exposed. It takes more fuel to till, is hard and crusty as a seedbed, holds less water for crops and erodes even faster than the topsoil.

Soil erosion is a losing proposition for the public as well as for farmers, Halsey says. Drainage and roadside ditches must be cleaned to function properly. Barge channels need frequent dredging so agricultural inputs and products can be shipped. Reservoirs become filled rapidly and lose their capacity to hold floodwaters. Fishing streams and waterfowl backwaters fill with sediment and lose their value as wildlife habitat and good places to fish and hunt.

Many farmers have shied away from traditional soil-conserving practices such as contour farming and terraces because they are less convenient for using larger farm equipment. Many have switched from soil-conserving rotations, which included hay, to corn and soybeans when they sold out their herds.

Conservation tillage, which keeps at least 30 percent of the ground covered by crop residues throughout the year, is an excellent soil conserving practice. However adoption is slow in Minnesota compared to neighboring states.

If excessive erosion continues in Minnesota, farmers will be in danger of losing more than their soil, Halsey says. They are hastening the day of compulsory soil conservation and the loss of the right to do as they please with their land.

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FOR IMMEDIATE RELEASE

DIGEST EXPLAINS DRY STORED
GRAIN AERATION SYSTEMS

Most farmers do not have serious spoilage problems with their dry stored grain. Spoilage problems do occur, however, and cause farmers much concern, inconvenience in separating spoiled grain from good grain, and occasionally, serious economic loss.

These grain storage spoilage problems can be almost completely controlled by careful management and a knowledge of how grain aeration systems work, according to a new Agricultural Engineers' Digest from the Midwest Plan Service.

Managing Dry Grain in Storage, AED-20, tells farmers how a grain aeration system works and how to use it to control and avoid moisture migration problems in dry stored grain. The publication was written by agricultural engineers in the north central region.

The digest explains the relationship between grain temperature and moisture migration and gives guidelines for aerating for temperature control. Safe grain storage moistures, aeration airflow rates, cooling grain for winter storage, observation and management of stored grain, warming grain in the spring and summer management are covered in AED-20.

Managing Dry Grain in Storage also includes sections on safety practices and insect control in stored grain. An appendix lists possible storage problem symptoms, probable causes and recommended actions to solve the problems.

The 12-page digest costs \$1.00 plus \$.04 sales tax and is available from Extension Engineering, 201 Agricultural Engineering, University of Minnesota, St. Paul, MN 55108.

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add one--Food briefs

Swiss cheese	(1 oz.)	105 calories
Mozarella (partly skim milk)	(1 oz.)	80 calories
Blue cheese	(1 oz.)	100 calories

* * *

Curtain Up On Picnics... Picnic season is in full swing, and that means that portable and backyard barbecue grills are seeing lots of action.

For the best fire, pour charcoal briquettes into a pile, soak with lighter fluid and ignite. Or, soak a small number of briquettes in fluid ahead of time and use on the bottom of the pile of briquettes.

Once the flames have disappeared and the briquettes are burning, distribute them evenly under the grill one layer thick. If you must add additional charcoal, add it to the edge of the fire. Coals left at the end of the cooking period can be dunked in water and dried out for later use.

If you enjoy hickory flavoring, soak hickory chips in water and add them to the coals at the end of the cooking period. Liquid smoke sprinkled over meat or smoke flavored salt also add a distinctive flavor to barbecued meat.

* * *

Picnic Safety Insurance... As the distance lengthens from the range and refrigerator to the table, the greater is the chance of food spoiling. To be sure that your picnic is a safe one from the food standpoint, here are some pointers:

* Clean all cutting boards and counter tops used in preparing foods. Just wiping with a damp cloth is not enough. Use hot, sudsy water and rinse with hot water of a solution of water to which a bit of vinegar or chlorine bleach has been added.

* Leave hot food in the pan it was cooked in. Cover, wrap it in newspaper and reheat it at the picnic site.

* Keep chilled food in a cooler filled with ice cubes or a chunk of ice. Newspaper makes another good insulator against warm outdoor temperatures. Keep picnic food out of the sun and out of hot, closed cars.

* Keep covers on food set out on the table to protect it from insects.

* Take only enough food for the meal. Do not take leftovers home.

* * *

add one--Picking Time

*Pick only the berries that are fully red.

*Pick a row clean. Remove berries that have rotted or show defects.

*If you plan to hold the fruit for a day or so, pick early in the day or on a cool, cloudy day.

*Avoid placing berries in the sun, on a car seat or in a trunk for longer than necessary.

*Cool the berries as soon as possible after picking.

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CA

Department of Information
and Agricultural Journalism
Agricultural Extension Service
University of Minnesota
St. Paul, Minnesota 55108
Tel. (612) 373-0710
June 17, 1980

Source: Leonard Hertz
(612) 373-1103

Writer: Deedee Nagy
(612) 373-1781

(Note to agents: You should localize this story as much as possible. Check local growers for the availability of their berries. You may want to name the U-pick operations in your area and give picking hours.)

GET OUT YOUR PAILS: IT'S PICKING TIME

Strawberries are in, and from now until the end of September, do-it-yourself pickers can satisfy their strawberry and raspberry cravings while they get some exercise and fresh air.

Leonard Hertz, extension horticulturist at the University of Minnesota, says the first June-bearing and everbearing strawberries are beginning to appear at local U-pick operations. The raspberry season will begin about when first strawberries end, around mid-July. Everbearing strawberries will be available again beginning about August 20. Fall raspberries come in again during September and October.

Many farms and fruit operations in the metropolitan area offer berries on a pick-them-yourself basis, Hertz says. A free directory of such U-pick farms throughout Minnesota is available from the Minnesota Department of Agriculture's Marketing Service Division, 90 West Plato Blvd., St. Paul, MN 55107.

Before going to a U-pick berry farm, Hertz suggests a call to be sure there are berries available and picking conditions are favorable. Most U-pick farms supply containers. Once filled, containers are weighed and pickers pay based on the weight of their berries.

He offers these tips for berry pickers:

*Avoid deep containers. Heaping berries more than five inches deep will bruise the lower berries.

MSC
8A27p

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Agricultural Extension Service
University of Minnesota
St. Paul, Minnesota 55108
Tel. (612) 373-0710
June 17, 1980

Source: Isabel Wolf
(612) 376-3401

Writer: Deedee Nagy
(612) 373-1781

MAGAZINE CANNING METHOD
POTENTIALLY HAZARDOUS

A hazardous vegetable canning method is being endorsed in the June 3 issue of a popular grocery store checkout counter magazine, and consumers should be on the alert, according to Isabel Wolf, extension food and nutrition specialist at the University of Minnesota.

The dangerous technique is recommended for okra and squash. It calls for the addition of 6 tablespoons of vinegar and 2½ tablespoons of salt per gallon of water and then suggests canning the products by the open kettle method without any heat processing.

Mrs. Wolf warns, "These vegetables are 'non-acid' and require a pressure canning process. The vinegar and salt added to the water are not sufficient to safely treat the vegetables as pickled products. I am concerned that consumers might read about this method and attempt to use it for green beans, corn or other more common vegetables. It could be very dangerous."

She adds that the open kettle canning method recommended in the magazine is safe only for jelly and jam. Acid products such as fruits, tomatoes and pickles must be canned in a boiling water bath, and low acid products - vegetables, fish, poultry and meat - require canning in a pressure canner. Only there will the temperature be high enough to kill spores that cause botulism food poisoning.

If you have questions about any canning or freezing procedures, Mrs. Wolf recommends contacting the home economist at your local county Agricultural Extension Service for answers and information.

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Department of Information
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Agricultural Extension Service
University of Minnesota
St. Paul, Minnesota 55108
Tel. (612) 373-0710
June 30, 1980

KNOW WHAT YOU'RE GETTING
IN LANDSCAPE TIMBERS

Landscape timbers can add an attractive element to your lawn or patio area, but if you use wood that isn't properly preserved, that beauty could be short lived.

Lewis Hendricks, extension forest products specialist at the University of Minnesota, says consumers should look for pressure treated landscape timbers and posts. Wood that is merely brushed with a preservative will not last much longer than untreated wood. Buy only wood that is stamped A.W.P.B.-- American Wood Preservers' Bureau, he advises.

Even with preservative treatment, some types of wood are ill-suited to outdoor uses where they contact the soil. Aspen, for example, will last only a few years even if treated. Some wood sold as "treated" is only soaked in a dark oil with a creosote odor or a green stain. This wood is not preserved at all, Hendricks cautions.

The heartwood of some species such as western red cedar is naturally durable, and can be used untreated. Be cautious, however, to specify the heartwood of western red cedar because the sapwood of this wood can also deteriorate.

Hendricks warns consumers not to accept vague answers or statements when buying landscape timbers. "Ask for information about treatment, preservative type and wood species in writing," he says. "A well treated timber should last more than 30 years."

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Agricultural Extension Service
University of Minnesota
St. Paul, Minnesota 55108
Tel. (612) 373-0710
July 1, 1980

PORK, CHICKEN, FRUITS TOP JULY BARGAIN LIST

Always a peak month for California tree fruits, July this year will also be a month when consumers can find good prices on pork products, broilers, turkey and eggs.

Marketing specialists with the U.S. Department of Agriculture report that producers of pork, broilers, turkey and eggs continue to receive prices below break-even levels, and this means lower supermarket prices for these items now than a year ago. Adding to the large supplies of poultry is a sluggish consumer demand that keeps prices weak at the farm level as well as at wholesale.

The California nectarine and plum crop is reportedly at record levels, and peach production from several other states is also large. All three summer fruits are at their seasonal peaks this month.

When buying peaches, look for fruit that is fairly firm. The skin color between the "blush" areas should be yellow or creamy, never greenish. Nectarines should have a rich color and plumpness and a slight softening along the "seam." Bright looking fruits that are firm or moderately hard will ripen within two or three days at room temperature.

Plums should have a bright color for the variety and be fairly firm to slightly soft for best eating quality.

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Agriculture Extension Service
University of Minnesota
St. Paul, Minnesota 55108
Tel. (612) 373-0710
July 1, 1980

SOURCE: C. J. Christians
(612) 373-1166

BARROW TEST STATION OPEN HOUSE AT NEW ULM

Barrows on test at the New Ulm Swine Evaluation Station will be on display July 18.

The open house program will begin at 10 a.m. with the viewing of about 800 National Barrow Show and 180 Minnesota State Fair barrows. At 11 a.m. the National Barrow Show Central Test and the Minnesota Central Testing Program will be explained, according to C. J. Christians, University of Minnesota extension specialist and program supervisor.

A judging evaluation contest will be held throughout the day. A noon lunch will be provided by the New Ulm Hub Club. The afternoon program will be a repeat of the morning activities.

Some 800 different producers from throughout the U.S. have hogs on the official performance test.

All pork producers interested in genetical superior breeding stock are encouraged to see swine being evaluated at the new testing facility located west of New Ulm on Highway 14.

For further information contact Ed Hubly, test station manager, New Ulm Swine Evaluation Station, New Ulm, MN 56073.

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CA, 1A, 4-L

Department of Information
and Agricultural Journalism
Agriculture Extension Service
University of Minnesota
St. Paul, Minnesota 55108
Tel. (612) 373-0710
July 1, 1980

SOURCE: Clif Halsey
(612) 373-1060

DROUTH MAKES SOIL EROSION MORE NOTICEABLE

"Soil erosion in the form of eroded knolls and sidehills was very visible this spring," says Clif Halsey, University of Minnesota extension conservationist. Thin stands, uneven germination and short plants were obvious on eroded spots because of the spring drouth.

Erosion by wind and water has removed much of the topsoil with its higher organic matter content and better tilth from these areas. As a result, heavier textured subsoil with little organic matter has been brought to the surface by tillage and mixed with the plow layer. The situation has been aggravated by deep plowing to nine inches rather than the traditional five or six inches; more subsoil is diluting the remaining topsoil.

Preparing a suitable seedbed in these soils is difficult. They are difficult to work up and become hard and lumpy so that soil-seed contact is poor. With the lower organic matter content they hold even less water for the crop and dry out rapidly. Such soils crust quickly during rains so that little water soaks into the soil and more runs off. Also, seedling emergence is hampered.

Soils which are naturally shallow over sand, gravel, or bedrock are even more severely affected by erosion than the deep soils. There is no practical way to restore the productivity of shallow soils since the root zone is lost permanently.

add one--Drouth Makes

Eroded soils are also lower in plant nutrients, especially nitrogen. With ever-increasing prices of fertilizer, lost soil fertility is a greater cost than it used to be.

As eroded areas lose their fertility and water holding capacity and become less productive, there is less crop residue to return to the soil and more runoff hastens the continuing erosion process.

Continuous row-cropping with corn and soybeans and farming up and down hills regardless of direction of slope are speeding up soil erosion. Detailed records from western Iowa show that average soil losses on cropland have increased from 14 tons per acre in 1973 to 17 tons annually now. The allowable soil loss on deep loam soils is usually 5 tons per acre annually.

Farmers are advised to give serious thought to what they are doing to the land by cropping and tillage practices which encourage soil erosion. Contour farming and terracing are needed more than ever with the heavy emphasis on row-crop farming.

Conservation tillage systems which leave 30 to 40 percent of the land covered by crop residues after planting are also very effective in controlling erosion. Halsey encourages farmers to contact their county extension and soil conservation offices for specific information about soil-conserving practices.

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CA, 1A, 4-FC

Department of Information
and Agricultural Journalism
Agricultural Experiment Station
University of Minnesota
St. Paul, MN 55108
Tel. (612) 373-0710
July 14, 1980

Source: Kenneth A. Jordan
(612) 373-1327

Editor: Sam Brungardt
(612) 376-8182

RESEARCH TO FOCUS ON REDUCING
FOSSIL FUEL USE IN HOG PRODUCTION

Scientists at the Minnesota Agricultural Experiment Station, St. Paul, are beginning a study that may enable hog producers to substantially decrease or totally eliminate fossil fuel use in their production systems.

Agricultural engineer Kenneth A. Jordan, animal scientist Steven G. Cornelius, and extension agricultural engineer Larry D. Jacobson will conduct the energy-related research over the next three years with an \$80,000 competitive grant from USDA's Science and Education Administration. Their goal will be to develop and verify a mathematical model that will allow them to predict the growth and heat production responses of pigs under differing nutritional and environmental influences and to combine this model with existing building models. They also plan to develop facility plans that maximize the use of renewable energy resources and eliminate fossil fuel usage as much as possible.

The research will be concentrated on farrowing houses and nurseries, which account for the bulk of swine producers' energy inputs. If the project is successful and the researchers' findings are put into practice, it could mean much in dollars and cents to Minnesota farmers who annually put the state among the top in numbers of pigs farrowed.

"We will build test chambers so experimental data can be obtained to exercise the mathematical model and establish its accuracy," Jordan says. "We'll try to come up with a critical temperature for nursery-age pigs and see how environmental factors such as air temperature, radiation or surface temperatures, and air exchange rate affect the critical temperature."

add one--RESEARCH TO FOCUS

Critical temperature might be defined as that temperature at which animals must eat more to keep warm.

In putting the model into practice, two concepts are important, heat conservation and utilizing sources of nonfossil-fuel-derived heat.

Insulation and ventilation figure prominently in conserving heat in a nursery. Jordan says, "Often more than 90 percent of the heat in the nursery is lost in ventilation. But ventilation is important, and it must be managed properly so that diseases do not become a problem and the pigs' growth rate is maintained."

Jordan says swine producers already have the means available to substantially reduce heat losses from ventilation. The key, he says, is to use a ventilation fan of known capacity that is specially selected for the size of the nursery. The fan should have controls so it can be operated in such a way as to conserve energy.

In terms of utilizing nonfossil-fuel heat sources, heat exchangers, solar energy, and burning wood, coal, or crop residues are ways hog producers can provide supplemental heat to nurseries.

Another possibility, he points out, is using hog feed indirectly as fuel. "By dropping the ambient temperature and getting the animals to consume more feed to keep warm, we may be able use the heat they produce to keep the facility warm."

This is the part of the study that Cornelius will be most involved in. He will study the nutritional influences of different feeds on pigs' body heat production. This includes the feeds' protein and energy levels and level of intake and how nursery-age pigs adjust their feed consumption to cope with the ambient temperature of their environment.

"We'll be putting data that are already available together in a series of mathematical equations that will allow us to accurately predict the pigs' responses," Cornelius says. "We're particularly interested in just-weaned pigs three to eight weeks old. This is the area of hog production in which most energy inputs are being made right now, with some farmers maintaining temperatures as high as 90-92 degrees F in their nurseries."

Eventually, Cornelius, Jordan, and Jacobson hope to test their model on cooperating farms by using some of the newer energy-saving and energy-producing innovations and practices along with what they learn about utilizing feed as an energy source to heat buildings.

Department of Information
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Agricultural Extension Service
University of Minnesota
St. Paul, Minnesota 55108
Tel. (612) 373-0710
July 14, 1980

Source: Clif Halsey
(612) 373-1060

1980 CROP RESIDUE COVER IN SOUTHERN MINNESOTA

Crop residues should still cover from 30 to 40 percent of the ground after the crop is planted for good water and wind erosion control. "This is true conservation tillage because it will reduce soil erosion to 40 to 50 percent of what occurs on bare ground," says Clif Halsey, extension conservationist at the University of Minnesota.

During June of each year, Halsey records crops and surface cover occurring on several hundred fields in southern Minnesota. He makes special note of those fields having 15 percent or more of the surface still covered by crop residues after planting. That amount of cover will reduce soil erosion to about 70 percent of what would occur otherwise on bare ground.

In the most easterly counties--Fillmore, Goodhue, Houston, Olmsted, Wabasha, and Winona--about 15 percent of the cornfields had a 15 percent plus surface cover after planting. In these same counties, 27 percent of the soybean fields had cover this year as compared to none in 1979. In the area including Dodge, Freeborn, Mower, Rice and Steele counties, none of the cornfields observed had a surface cover after planting either this year or last year. In this same area, 10 percent of the soybean fields had surface cover in 1980 as compared to 3 percent in 1979.

In 13 counties comprising south central Minnesota, there is significant conservation tillage on only about 2 percent of the cornfields and 3 percent of the soybean fields. However, the number of protected fields has increased over 1979, Halsey says.

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University of Minnesota
St. Paul, Minnesota 55108
Tel. (612) 373-0710
July 14, 1980

CONSISTENCY IS KEY TO WATERING YOUR LAWN

Whether you're still watering regularly or have put your sprinkler away in disgust, your lawn will probably be OK as long as you stick by your decision.

This is the conclusion of Deborah Brown, extension horticulturist at the University of Minnesota. The danger to your lawn comes when you switch back and forth between periods of liberal watering and no watering at all.

"If you have a Kentucky blue grass lawn, the most common type in this area, you can allow it to turn brown and go dormant," Brown says. "It will green up again when fall rains or more regular waterings resume. But each time the grass comes out of dormancy, some of the nutrient reserves in its root system are used up. So if you let your grass go dormant, leave it alone rather than allowing it to swing from brown and dormant to green and growing periods by erratic watering."

The safest course, she admits, is to keep your lawn green and growing, particularly if it is made up partially or entirely of elite Kentucky blue grasses. These won't snap back as well if allowed to grow dormant.

If you opt to water regularly, be generous in the amount of water. "It's always better to water more heavily, but less frequently," she says. Frequent, light sprinkling encourages shallow root growth. Plants growing with roots in only the upper inches of soil are vulnerable to damage during sudden hot spells when water is in short supply either through lack of rain or a hit-and-miss sprinkling schedule.

Brown advises about an inch of water a week, delivered either at one time or half an inch twice a week in areas with sandy soil. "Put out coffee cans to

add one--Consistency is Key

determine how many hours it takes your sprinkler to deliver that amount and you'll know you're watering thoroughly enough to get good results," she says.

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CA, TCO

Department of Information
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Agricultural Extension Service
University of Minnesota
St. Paul, Minnesota 55108
Tel. (612) 373-0710
July 14, 1980

Source: Clif Halsey
(612) 373-1060

GRASSED WATERWAYS NEED GOOD CARE

Grassed waterways used on many farms to control erosion in drainageways will have a "short life" unless someone takes care of them.

Clif Halsey, extension conservationist at the University of Minnesota, offers these tips:

Inspect waterways and repair damage immediately after heavy rains and spring runoff. Otherwise small gullies may continue to grow and ruin the value of the waterway.

Mow and remove the grass. Tall grass slows the runoff so much that soil eroded from fields above fills in the center of the waterway. This causes the runoff to flow and gouge gullies along the edges.

Raise tillage machinery and shut herbicide sprayers off when they cross waterways. Many grassed waterways are killed by grass herbicides.

Grassed waterways should not be used as field roads, Halsey says. The grass is killed by heavy travel and ruts which form are turned into gullies by heavy runoff.

Grassed waterways have a short life if the fields above them are farmed so there's excessive erosion. The eroded soil fills in the waterway causing erosion along the edges.

More information about grass waterways can be obtained at county extension offices by asking for Extension Folder 480, Grassed Waterways - Construction and Maintenance. ASCS and soil conservation district cost-share programs provide funds for constructing grassed waterways. The districts and the Soil Conservation Service offer technical assistance for design and construction.

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Agricultural Extension Service
University of Minnesota
St. Paul, Minnesota 55108
Tel. (612) 373-0710
July 14, 1980

Attention: Home Economists

INDUCTION RANGE TOPS BECOMING AVAILABLE

They're still not available everywhere and they carry hefty price tags, but cooktops and ranges using induction heating are appearing on the appliance scene. Induction heating uses electrical energy to heat the cooking pan.

Wanda Olson, extension household equipment specialist at the University of Minnesota, explains that coils are located under a glass-ceramic surface in the range tops. A magnetic field over the coil induces a current in the bottom of the pan. If the pan is steel or iron it resists the flow of current and heat is created, warming the food as it does.

Because of its unique way of heating, the glass-ceramic cook top stays relatively cool. It does heat up from the hot pan resting on it, however.

Induction cooktop and range manufacturers recommend stainless steel or cast iron pans. Very little heating occurs in copper or aluminum pans because they are such good conductors of electricity. Copper and aluminum are often used in the core of stainless steel pans and work well for induction heating because the outside or bottom layer is steel and will heat. Copper or aluminum clad pans will not heat, nor will glass or ceramic ware.

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Agricultural Extension Service
University of Minnesota
St. Paul, Minnesota 55108
Tel. (612) 373-0710
July 14, 1980

Attention: Home Economists

USDA WATCHDOGS REASSURE CONSUMERS THAT 'SEEING IS BELIEVING'

Back in the days of the cracker barrel and the pickle crock, food shoppers could touch, sniff and even taste what they were buying to be sure it met their standards.

Today, however, more than half of our food is processed and packaged, leaving consumers with labels and photographs to base decisions upon. But have you ever wondered just how reliable that label information really is?

Bud Gordon, chief label reviewer for the U.S. Department of Agriculture's Food Safety and Quality Service (FSQS), heads a program to assure consumers that "seeing is believing."

Last year, his labels staff reviewed some 105,000 label approval applications, rejecting about 13,00 because they failed to meet some labeling requirement.

Some products hit snags when they use names that don't accurately describe their contents. The FSQS sets standards for many foods. For example, beef stew must contain at least 25 percent beef. If a product fails to measure up, either the recipe must be changed or the label altered to read "imitation."

Vegetable proteins are popular in many convenience foods, but FSQS regulations says this must be stated clearly. Gordon says, "Vegetable protein can't be used to make consumers think they're getting more meat than they really are. If you see a product labeled 'pizza with meat' with a qualifying vegetable protein statement nearby, you'll know you are getting at least the minimum amount of meat that's required."

add one--USDA Watchdogs

Packaging photographs can mislead consumers too. Photographs that show suggested servings complete with garnishes and side dishes must be labeled, because some consumers expect everything pictured should be in the package.

"Consumers don't want to pay for surprises these days," Gordon says. That's why we weed out the mistakes some processors make before shoppers ever have an opportunity to be misled."

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St. Paul, Minnesota 55108
Tel. (612) 373-0710
July 14, 1980

Attention: Home Economists

SUCCESSFUL FOOD DRYING UNLIKELY IN CONVENTIONAL OVEN

If you are a camper, backpacker or any one else who is serious about drying foods at home, a commercial home dehydrator or portable convection oven may be a necessary investment for you.

Wanda Olson, extension household equipment specialist at the University of Minnesota, says drying foods in a conventional oven gives much less satisfactory results. It is difficult to keep many conventional ovens in the 140° to 145° F temperature range ideal for drying. In addition, successful drying depends on air movement around the food to carry water vapor away. Home food dryers and convection ovens are equipped with fans to blow hot, dry air over the food, and it is difficult to duplicate this in a conventional oven.

Countertop food dehydrators cost from \$100 to \$250. Convection ovens that recommend food drying range from \$150 to \$200, with racks for drying adding \$25 to \$50 to the convection oven price. Mrs. Olson says food drying units have more square feet of drying space than convection ovens and will dry larger loads. Some large dehydrators will hold up to eight pounds of prepared foods. Most portable convection ovens hold only two or three pounds of food per load. Convection ovens, however, will reach temperatures up to 500° F. and are useful for a wider range of cooking purposes than dehydrators, which will attain temperatures up to only about 145°F.

Both appliances can be operated on a general 110/120 volt household electrical circuit (15 Amp). Convection ovens draw a greater wattage, about 1500 watts, and should not be used on the same circuit with other heating appliances

add one--Successful Food Drying

unless the circuit is a small appliance circuit (20 Amp). Mrs. Olson says that this may be an important consideration because food drying requires many hours of constant operation, and this could monopolize a circuit needed to run other appliances.

Food dehydrators and convection ovens require 18 to 24 inches of counter space and vary in height from 10 to 16 inches.

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CA, 4HE I & II

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July 14, 1980

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Attention: Home Economists

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University of Minnesota
St. Paul, Minnesota 55108
Tel. (612) 373-0710
July 21, 1980

LOOK FOR COMFORT, DURABILITY
IN CHILDREN'S SCHOOL CLOTHES

School clothing should be comfortable and durable so children can engage in normal activity without fear of tearing or soiling them says Sherri Johnson, extension specialist in textiles and clothing at the University of Minnesota.

She suggests checking for the following things when buying children's clothes:

- *Seams should be soft and flat to prevent irritation and well finished to resist pulling out and raveling.
- *Points of greatest strain such as under buttonholes, ends of pockets and closures, crotch and sleeve seams should be reinforced.
- *Fasteners and trimmings should be firmly attached and washable.
- *Hems and pant cuffs should be deep enough for lengthening.
- *Fabrics should be long wearing. Knit tops of cotton, cotton/polyester or nylon are good, and nylon is especially durable. Cotton/polyester will not shrink or stretch as readily as cotton, and it is more durable.
- *Jumpers and dresses that fall from the shoulder and do not have waistlines are ideal for girls who are growing rapidly.

Mrs. Johnson says raglan and kimono sleeves are wise choices because they offer room for movement across shoulders and chest. Yokes with gathers also are comfortable. Similarly, crotch and hip areas should have ample ease for comfort in bending. Necklines should be checked for gapping or binding that can cause skin irritation.

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Agricultural Extension Service
University of Minnesota
St. Paul, Minnesota 55108
Tel. (612) 373-0710
July 21, 1980

Immediate release

CONSIDER CHILDREN'S
FEELINGS ABOUT CLOTHING

If you're faced with making or buying new clothes for the coming school year, consider how your child feels about his or her clothing as well as cost, durability and care advises Sherri Johnson, extension textiles and clothing specialist at the University of Minnesota.

Mrs. Johnson says clothes give children a sense of security. They help them feel at ease and comfortable rather than awkward and out of place.

"To help a child gain approval from friends, look for clothing that is colorful and styled like the things friends are wearing," Mrs. Johnson says. "Colors, attractive prints, interesting textures and trim permit individuality and help a child feel attractive and accepted in his or her clothing."

She suggests buying clothing that will allow for physical growth and children's changes in feelings about clothing. She cautions against buying overly-large clothing, expecting a child to grow into them. "A child may become self-conscious in clothing that is too large," she says.

Instead, she urges consumers to select clothes that are designed for comfort, activity, growth and personal development. Garments should be simple in design, comfortable and roomy enough for squatting, reaching, running and climbing.

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Immediate release

FREEZING BAG LUNCHES

With many youngsters returning to school within a few more weeks, it's good to know you can avoid packing bag lunches every morning by making and freezing lunches ahead of time.

Complete lunches--including sandwiches, sauce, juice, cakes and cookies--may be frozen, University of Minnesota food specialists say. Remember, however, that the storage life for most sandwiches is only about three weeks, so don't work too far ahead. Be sure to label the sandwiches and date them.

Remember also that hard-cooked eggs tend to toughen and become rubbery when frozen. Some sandwich spreads don't freeze satisfactorily. Jelly, mayonnaise and salad dressings used as spreads soak into the bread.

It's best not to freeze lettuce, celery, tomatoes and carrots. Add them to the sandwiches when they are removed from the freezer.

Sandwiches should be wrapped separately in good freezer wrapping material. Lunches will thaw completely in three to four hours at room temperatures. Never refreeze a sandwich once it has thawed.

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July 21, 1980

HAY PRICES TAKE BIG JUMP

Hay prices increased by one-third during the third quarter of this year, according to a survey of Minnesota hay dealers in early July.

Top quality alfalfa hay has already brought over \$70 per ton at some sales, according to University of Minnesota extension economist Paul Hasbargen. However, sales in southeastern Minnesota were often in the \$50 range. The Thief River Falls alfalfa production plant was paying only \$40 per ton, even though they're located in the most severe drought area of Minnesota.

Minnesota hay prices bottomed out in April. There was a large carryover of old crop hay this spring. Pasture shortages and low hay yields have been partially responsible for recent hay price increases.

Hasbargen says straw price quotations have not changed this spring. However, they're apt to go up after small grain harvest. Farmers in need of bedding should make arrangements early, he advises.

More information on the hay market and forages is available in the Minnesota Grassland and Forage Council's August newsletter, available from 213 Agronomy, University of Minnesota, St. Paul 55108.

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CA,1A

Department of Information
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St. Paul, Minnesota 55108
Tel. (612) 373-0710
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Sources: Dr. Dale Haggard
(612) 376-8128

Dr. James Hanson
(612) 373-1154

Editor: Jack Sperbeck
(612) 373-0715

THROW DES SUPPLIES AWAY, LIVESTOCK PRODUCERS URGED

Livestock producers should eliminate the temptation to use Diethylstilbestrol (DES) by throwing unused supplies away, University of Minnesota extension veterinarians advise.

"Don't use DES as an implant or feed additive--it's illegal," warns Dr. Dale Haggard, extension veterinarian at the University. Read the label of all implants so you know what you're using, he advises cattle producers. Other implants such as Ralgro, Synovex-S and Synovex-H are effective and may be used legally.

Although an implant or feed additive is illegal, recent violations have been detected in 20 states. A total ban on use of DES in food animals has been in effect since Nov. 1, 1979.

Regulatory agencies of the U.S. Department of Agriculture (USDA) are stepping up surveillance of DES distributors. The USDA is encouraging distributors to initiate recalls of the drug. They're also sending regulatory letters to all feedlots identified as having used DES illegally.

In addition, USDA has reinstated its national random sampling test program for DES and will sample animals from which DES implants were removed.

Cattle that have received DES implants may not be slaughtered for human food until the implants have been surgically removed by, or under the supervision of, a veterinarian accredited by the USDA. These cattle must be withheld from slaughter for at least 41 days if the liver and kidneys are discarded at time of slaughter. They must be withheld until 61 days if the liver and kidneys are to be used as human food. The liver and kidneys retain DES longer than the muscle tissues.

Before slaughter of DES implanted cattle for food is permitted the feedlot must provide the USDA with two affidavits stating that the implant was surgically removed and the removal date. One affidavit is sworn by a USDA-accredited veterinarian and the other by the feedlot official.

Because using DES in animals is illegal either in feed or as implants, violators are subject to regulatory action, including prosecution. The maximum penalty for each violation of the federal Food, Drug, and Cosmetic Act, with intent to defraud or mislead, is three years imprisonment and a \$10,000 fine or both.

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Writer: Jack Sperbeck
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Source: Paul Hasbargen
(612) 373-1145

FARMERS ENCOURAGED TO EMPHASIZE PROFITS OVER YIELDS

Rapidly escalating farm costs mean that many crop farmers will have to shift from "maximum yield" to "maximum profit" objectives.

"Farmers should seriously evaluate all of their standard practices and cut back on inputs that are not paying their way," advises University of Minnesota extension economist Paul Hasbargen.

In prepared remarks for a talk at the Midwest Bankers School at Morris July 21, Hasbargen says that jumps in fuel, interest and fertilizer costs have caused a 20 to 30 percent increase in crop production costs over the past year.

Many farmers spend more on inputs than what's desirable economically. A 1979 study compared 82 corn growers with "highest return over costs" with another group of 82 who had the highest corn yield. Both groups were from the Mankato, Minn., area.

Average yield was 147.3 bushels per acre for the highest yield group and 143.7 bushels for the highest return over costs group. However, direct costs (fertilizer, chemicals, seed) were only \$79 per acre for the highest return group compared to \$97 for the group with the higher yields.

"These direct costs don't include interest and fuel costs. Had they been included, there would be an even greater disadvantage for the high yield farms," Hasbargen says.

Farmland Returns

Net return to farmland is now about three percent, compared to about four percent a decade ago. "I expect land prices will continue to increase faster

add one--FARMERS ENCOURAGED

than net return to land during the 1980's," Hasbargen says. "Land may show a net return of only two to two and one-half percent by 1990.

"I expect land will remain a good 'growth stock' in the '80's, but continue to be overpriced when one looks at only current return and excludes annual land value appreciation."

Profit Prospects

This year will be the roughest cash flow year since the 1976 drought year for many Minnesota farmers, Hasbargen says. Dairy farmers and cow-calf operations are the only exceptions.

For many commodities, odds are that 1980 average prices will not be high enough to cover increased operating costs.

"But I'm more optimistic about the remainder of this decade," Hasbargen says. World demand for agricultural products may exceed supplies during the '80's.

"America has an efficient agriculture. If trade channels stay open, our farmers should benefit from this fact if the projected tight food situation materializes." Hasbargen says profit opportunities will be excellent for farmers with little debt. But farmers with high debt ratios will have to avoid becoming "slaves to the lender."

Planning Prices

Recent price rises in corn, wheat, soybeans and hogs should make it attractive for some farmers to lock in a favorable price on the futures market. "Farmers with cash flow problems may find it especially attractive to lock in current fall prices on corn and hogs" Hasbargen says. "Current corn contract opportunities are over \$2.60 per bushel--higher than our fall outlook expectation. Recent December hog futures of \$44 per hundred are also higher than the current outlook for fall hog prices."

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Source: Don Bates
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SOLAR MACHINE SHED, FARROWING HOUSE PLANS ARE AVAILABLE

Farmers and farm builders interested in using solar energy in farm structures may wish to check out two new solar building plans from the Midwest Plan Service.

The first plan is for a 48-foot machine shed adapted for solar energy capture and use by agricultural engineers at the University of Illinois. The shed has a 14-foot clearance and includes a 48 by 40-foot attached shop.

The machine shed's entire south roof and sidewall are used as a solar collector and both the shop air and shop floor may be heated with solar energy. The plan also shows ducting heated air for grain drying or heating a livestock building. Each system is independent of the others, and one, two or all three of the systems may be installed in the building.

The 4-page solar machine shed plan, mwps-81901, costs \$1.04. For construction details for doors, headers, trusses, etc., Midwest Plan No. 74146 must also be ordered. Cost of the 48' pole machine shed plan, mwps-74146, is \$2.08.

The second plan is a solar adaptation of a Midwest Plan Service 20-sow farrowing house. The solar farrowing house is a 24 by 64-foot stud frame building for 20 sows in farrowing stalls. The solar features on this building were developed by agricultural engineers at Kansas State University.

Year-round forced ventilation (exhaust-type) and liquid manure storage are provided for in this building. Winter ventilating air is preheated as it passes through gaps in a solar heated wall of solid concrete blocks along the building's south side. The same wall cools ventilating air in the summer.

The 20-sow solar farrowing house plan, mwps-81902, has nine pages plus a 24-foot truss sheet. Cost is \$2.08. The plans are available from Extension Agricultural Engineering, 201 Agricultural Engineering, University of MN, St. Paul, MN 55108

The plans are also discussed in the Low Temperature & Solar Grain Drying Handbook, MWPS-22. This 86-page handbook explains solar energy principles, lists solar's practical on-farm uses, and gives information on low temperature grain drying. It is also available from your extension agricultural engineer. The price of MWPS-22 is \$3.12.

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VEGETABLES GROW
FROM A TO Z

Vegetables grow in great variety--from asparagus to zucchini. During the growing and harvesting season, take advantage of fresh vegetables from your garden, friends, market or roadside stand and discover how great vegetables can be.

Vegetables generally are low in cost, low in calories and contribute important minerals and vitamins to our diets, says Mary Darling, extension nutritionist at the University of Minnesota.

One-half cup of most boiled vegetables contains less than 50 calories, continues Ms. Darling. Starchy vegetables like lima beans, peas, corn and plain boiled potatoes supply from 50 to 100 calories in one half-cup. However, if you add butter, margarine, sour cream or yogurt, you add:

1 tablespoon butter or margarine.....	100 calories
1 teaspoon butter or margarine.....	35 calories
1 tablespoon sour cream.....	25 calories
1 tablespoon plain yogurt made from partially skimmed milk.....	8 calories

Most leafy dark-green and deep-yellow (orange) vegetables are good, inexpensive sources of vitamin A. And as a bonus, many dark-green vegetables supply valuable amounts of vitamin C, iron and other vitamins and minerals if they are carefully prepared. Use small amounts of water and don't overcook.

Some vegetables are outstanding for the protein they contain: dry peas, navy, pinto and soybeans. They also contain B vitamins, iron and other nutrients.

Put vegetables at the top of your shopping list, advises Ms. Darling, and use the different ones as they come into season.

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THINKING OF FOOD DRYING?
KNOW THE 'DOS' AND 'DON'TS'

Drying food at home can make sense for avid campers, backpackers and canoeists, but to be sure that their dried foods are of the best possible quality, they must blanch vegetables and treat fruit with chemicals.

This is the advice of Isabel Wolf, extension food and nutrition specialist at the University of Minnesota. For long term storage she advises consumers to can or freeze produce rather than to dry it because home canning and freezing retain nutrients better than home dehydration.

However, the availability of home food drying units and portable convection ovens has spurred an interest in drying, Mrs. Wolf says. For the best possible home dried food, she recommends using peak quality fruits and vegetables. If possible, they should be gathered early in the morning and started drying as quickly as possible to prevent browning or wilting.

All vegetables except for onions, green peppers and mushrooms must be blanched. This inactivates enzymes that can spoil or contribute off-flavors to vegetables.

Blanching is done by immersing vegetables in boiling water or suspending them in a steam-filled kettle for a set time. They are then plunged in ice water to halt the blanching process.

Fruits also need special handling before going into the food dryer, Mrs. Wolf says. Pretreating them with an ascorbic acid solution will prevent browning, but an even more effective treatment is with sodium bisulfite, sodium sulfite or sodium metabisulfite. These chemicals reduce vitamin loss, flavor loss, browning and storage deterioration. They are generally available at home winemaking shops.

Food drying--add one

In addition to being blanched or chemically treated, food should be cut into strips or slices not more than 1/8 to 1/4 inch thick. Cut all foods in one dryer load to uniform thickness, and remember that doubling the thickness will increase drying time four fold, Mrs. Wolf says.

She advises food dryers to follow the capacity recommendations on their dryers or convection ovens. Do not add more produce as the food dries, and don't be tempted to speed the process by raising the oven or dryer temperature above 140° to 145° F. As a further precaution, Mrs. Wolf suggests avoiding rainy or humid days for drying food. The process takes much longer when the air is full of moisture.

The following charts give basic procedures for drying common fruits and vegetables. Never attempt to dry meat (except beef jerky), eggs or dairy products because bacteria causing food poisoning can survive the drying process.

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PROPER STORAGE ESSENTIAL
FOR HOME DRIED FOODS

Drying food at home can supply you with menu items for camping, hiking and other uses, but proper storage of that dried food is as essential to quality as proper drying.

Isabel Wolf, extension food and nutrition specialist at the University of Minnesota, says dried foods must be stored correctly to maintain the low moisture levels reached after hours in a dehydrator or convection oven. Immediately after the dried foods have cooled, they should be packed in sealed plastic bags and then placed in tightly sealed glass jars.

Plastic containers or metal containers with plastic lids aren't recommended because they permit moisture to re-enter the foods, Mrs. Wolf adds. As a further precaution, she suggests placing a silica gel or dessicant in the bottom of the container. This material absorbs moisture, thus keeping it from the dried food. It is available in notions or housewares sections of department stores or at some hobby shops.

Packaged dried foods should be kept out of the sun and in as cool a spot as possible. In general, the shelf life of home dried fruits and vegetables is four to six months at 60° F., but that life is shortened if storage temperatures are 70° F. or higher. Dried foods in sealed plastic bags may also be stored in the refrigerator or freezer, and this prolongs shelf life.

Mrs. Wolf cautions persons drying food at home not to confuse their products with freeze-dried foods that are available commercially. These have much longer shelf lives than home dried foods. Freeze-drying is not possible in the home because of the elaborate and expensive equipment necessary.

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How to Prepare Fruits and Vegetables for Drying

Fruits	Preparation	Storage time in months at 70° F
Apples*	Wash, peel, core and cut into pie slices or rings. Dip in sodium bisulfite solution for 5 minutes.** Rinse. Dry.	4 - 6
Apricots*	Wash, halve, remove pits. Dip in sodium bisulfite solution for 10 minutes.** Rinse. Dry.	6 - 8
Bananas	Peel, slice, dip in sodium bisulfite solution for 5 minutes.** Rinse. Dry.	2 - 4
Blueberries	Wash, and remove stems. Dry.	4 - 6
Cherries	Wash, remove stems, slice in half, remove pits. Dip in sodium bisulfite solution for 5 minutes.** Rinse. Dry.	8 - 12
Grapes—yellow seedless	Wash, steam for 30 seconds to 1 minutes to crack skins. Dry.	4 - 6
Peaches*	Wash, scald to remove skins. Slice into 1/2 inch slices. Soak in sodium bisulfite solution for 5 minutes.** Rinse. Dry.	4 - 6
Pears*	Wash and peel thinly. Remove core. Slice. Soak in sodium bisulfite solution for 5 minutes. Rinse. Dry.	4 - 6
Rhubarb	Slice diagonally into 1 inch slices. Steam 1 to 2 minutes. Dry.	2 - 4
Strawberries	Wash, slice, dip into solution of 1/2 teaspoon ascorbic acid per cup of water to protect vitamin C content. Dry.	4 - 6
<u>Vegetables</u>		
Beans, Snap	Wash, snap off ends and cut diagonally to expose most surface area into 1 or 1/2 inch lengths. Water blanch 3 to 4 minutes. Steam blanch 4 to 6 minutes. Dry.	3 - 4
Beets	Remove tops leaving 2 inches of top and wash. Steam until almost tender. Cut into strips 1/8 inch thick. Dry.	3 - 4
Carrots	Top, wash and scrape. Dice or slice 3/8 inch thick. Water blanch 3 minutes. Steam blanch 4 minutes. Dry.	4 - 6
Celery	Wash, cut stalks crosswise into 1/4 inch slices. Water blanch 1 minute. Dry.	1 - 2
Corn	Husk, remove silks and trim ends. Steam blanch whole ears of corn 3 minutes. Cut kernels from cob after blanching. Dry.	3 - 4
Garden Herbs	Wash and drain, but do not blanch leaves. Dry.	6
Mushrooms	No blanching required. Cut into 1/4 inch thick slices. Dry.	1 - 2
Onions	Wash, remove outer paper skins. Remove top and root ends. Slice into quarter sections 1/4 to 1/8 inch thick. No blanching required.	2 - 4
Peas	Wash, shell. Water blanch 2 minutes. Steam blanch 3 minutes. Dry.	3 - 4
Peppers and Pimientos	Wash, cut out stem, remove seeds and partitions. Halve, dice or slice. No blanching required. Dry.	6 - 8
Potatoes	Wash, peel, remove deep eyes, bruises, and green surface coloring. Cut in 1/4 to 1/2 inch cubes. Blanch 5 minutes over water containing 1 teaspoon sodium bisulfite per cup of water until translucent but firm. Rinse to remove gelled starch. Dry.	2 - 4
Summer Squash	Wash, peel, slice 1/4 to 1/8 inch thick. You can grate zucchini for use in soups. Dry.	less than 1
Tomatoes	Dip in boiling water to loosen skins. Slice crosswise 3/8 inch thick slices. Dry.	2 - 3

*Hold cut fruit in a solution of 1 teaspoon of ascorbic acid per quart of water while preparing rest of fruit for bisulfite dip. This helps prevent darkening.

**To a gallon of water, add 1 tablespoon sodium bisulfite, 2 tablespoons sodium sulfite, or 4 tablespoons sodium metabisulfite.

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ATTENTION HOME ECONOMISTS

SUN DRYING OF FOOD NOT ADVISED IN MINNESOTA

Drying foods in the sun sounds easy, energy efficient and wholesome, but don't be misled, cautions Isabel Wolf, extension food and nutrition specialist at the University of Minnesota. Minnesota's generally high humidity levels make sun drying nearly impossible. Most food will mold before it dries.

Mrs. Wolf says sun drying is done primarily in the southwestern states where high temperatures are usually coupled with humidity below 20 percent. Even under these conditions, sun drying can take three or four days. In addition, food dried in the sun is exposed to dirt, insects, rodents and bird wastes. It also requires more space and drying time than drying done in a home drying unit or a convection oven.

"Sun drying is just not recommended for home food preservation in this region because complete drying is nearly impossible to attain and the quality of such food is questionable," Mrs. Wolf says.

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FOR IMMEDIATE RELEASE

REPAIRING STORM-DAMAGED TREES MAY BE JOB FOR PROS

Homeowners with trees damaged by last week's violent winds or lightning should begin repairs with a clear understanding of what they can handle and what is best left to professionals.

This is the advice of Richard Rideout, extension horticulturist at the University of Minnesota. He suggests that trimming and repairing trees over 15 feet tall should be left to commercial firms. Procedures that require ladder climbing are hazardous enough to be worth paying professionals to do.

Trees struck by lightning may not show the extent of their damage immediately, Rideout says. Remove any hanging branches, but wait about a month to see if the tree has survived the lightning strike. If it has, that is the time to remove stubs and dead and loose bark.

If a trunk has split completely, there's little chance to repair it successfully. A tree that is still largely intact, however, can sometimes be saved by bolting through the trunk to hold it together. This is a job for professionals, Rideout adds. Collars, ropes or wires around damaged tree trunks may actually kill the trees by strangling them as they grow.

Rideout says large trees that have toppled probably have suffered such severe root damage that they won't survive if propped back up. There sometimes is a chance to save small uprooted trees, but if you can't do the work immediately, keep exposed roots moist and prune off any broken roots.

Once propped up, small trees should be secured with guy wires to either a stake or another tree. This, again, requires skills that most homeowners

add one--REPAIRING STORM-DAMAGED TREES

do not have, according to Rideout.

If the toppled tree has lost roots, Rideout advises thinning out the top of the tree. This eliminates some of the leaves that would otherwise lose water during the remaining hot days of this summer. With fewer leaves, the limited root system has a better chance of maintaining the tree.

Apply wound paint to the trimmed areas of oaks and elms to prevent oak wilt or Dutch elm disease from infecting the trees. For other types of trees, however, wound paint is only cosmetic and need not be applied, Rideout says.

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(Note to Agent/Directors--
Special Report 54, 1976,
"Using Drought-Stressed Corn"
is out of print. We have only
a few copies left but could
send photocopies to you if you
can't locate a copy)

Writer: Jack Sperbeck
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WAIT BEFORE SALVAGING
CORN FOR FORAGE

Don't chop corn for silage or emergency livestock now, a University of Minnesota extension livestock specialist advises farmers.

Even drought-stressed corn that is stunted and "burning" will probably be very high in moisture, says Jim Linn, extension dairy nutritionist at the University. It's usually the first or second week of September before moisture content of corn gets low enough to make good silage. Corn should be between 55 and 70 percent moisture to maintain its nutritional value after it's put in the silo.

Linn discourages farmers from chopping corn and feeding it to cattle now as emergency feed. With drought-stressed corn, there's the danger of nitrate toxicity to cattle. In addition, he says that buying some hay might be a better alternative than chopping corn now.

"Corn is so short and high in moisture now there's not much feed value. If you chop corn now, you're cutting into your winter feed supply", Linn says. Even corn that doesn't develop ears will continue to add feed value in the leaves and stems, according to Leland Hardman, University extension agronomist.

If farmers feel they have no alternative but to green chop drought-stressed corn for feed now, a test for nitrate content should be done before green chopping or grazing. Nitrates can be tested at most commercial forage testing laboratories in Minnesota. County extension offices have lists of commercial laboratories.

Don't chop corn--add one

When sampling for nitrates, be sure you get a representative sample. Take grab samples of chopped forage from various field locations which represent all levels of plant stress. Mix these samples in a bucket and place about one pint of material in a sealed plastic bag. Time between sampling and arrival at the laboratory must be as short as possible.

Refrigerating samples will help, especially when the time lag is longer than one day. Green or wet samples allowed to stand at room temperature or higher temperatures may lose nitrate through action of denitrifying bacteria and enzymes.

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Writer: Jack Sperbeck
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STATE'S CORN CROP NEEDS RAIN

Corn in parts of southwest and south central Minnesota is showing drought and heat stress.

The next two weeks will be extremely critical for much of the state's corn crop, according to Wally Nelson, superintendent of the University of Minnesota's Southwest Agricultural Experiment Station at Lamberton.

Recent rains have missed parts of the state's corn and soybean growing area. "We've had only one-half inch of rain at Lamberton in July, and .34^{inches} of that was on July 3," Nelson says. He says corn is showing signs of drought stress in a line from Lamberton to the Twin Cities.

"At Lamberton corn is 'living' on about two inches of subsoil moisture. If it doesn't rain in another week or two, the moisture reserve will be used up and kernels won't fill," he says.

Corn in Le Sueur County is stunted, tasseling prematurely and leaves are starting to "fire," according to County Extension Director Bob Leary. "The last rain we had was on June 12. The corn is hurting even on our heavier soils," he says.

Don Hasbargen, county extension director at Mankato in Blue Earth County, says they haven't had a rain there in four weeks. Much of the corn is starting to show drought stress, Hasbargen says.

Sibley County Extension Director John Peterson at Gaylord says most of the county is "not too bad, except for isolated spots with light soils."

Roger Wilkowske, county extension director in Waseca County, says the situation in Waseca County "is not critical yet. Cooler weather has helped reduce potential damage," he adds.

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FOOD BRIEFS

Making the Grade -- Are you ever confused when you go to the supermarket and see U.S. Grade AA butter, Grade A eggs, Fancy apples and Choice beef -- all bearing grades given by the USDA? A study done earlier this year shows that many consumers find the variation in grade names is confusing.

Grading officials are taking the widely varying food grades under study, and may propose changes that would make grade names more standard for all commodities.

If you have a comment or suggestion for changes in food grading, the USDA invites you to present your views by writing to the Regulations Coordination Division, Room 2637-S, Food Safety and Quality Service, U.S. Department of Agriculture, Washington, D.C. 20250.

* * *

Paying for Non-Competition -- Consumers pay for more than just food at the supermarket. One part of the bill that doesn't show up on the cash register tape is the extra money spent because there is little competition in some types of food manufacturing.

USDA economists say that competition is decreasing and this concentration costs consumers between \$10 and \$15 billion each year. This breaks down to a "monopolistic overcharge" averaging about \$55 per consumer each year. They report, however, that studies to date show little of this overcharging in meat, probably because of the large number of packers, low product differentiation and low average profits.

* * *

Pricing the Essentials -- Shelter, food and transportation gobble up the biggest percentage of the consumer's disposable personal income (DPI), but do you know approximately what the percentages are? Last year, housing cost an average of 28.5 percent of DPI, food 16.4 percent and transportation 13.0 percent.

-more-

Spending on food eaten away from home accounted for about one-fourth of the total food bill. Most of us spend more each year on transportation than we do on food eaten at home.

* * *

The Meaty 80's -- We're adjusting our habits to get the best bargains, but most of us are eating more meat now than ever before. USDA statistics suggest that beef consumption is down slightly, but pork and chicken consumption more than makes up for the downturn in beef sales.

Predictions are for 9 percent more pork and one percent more chicken marketed this year but 2 percent less beef. Prices are expected to rise 6 to 8 percent for beef but fall by 3 to 5 percent for pork and poultry.

* * *

Hazards of Sugary Diets -- Persons with a disorder known as "carbohydrate sensitivity" should watch the levels of sugar in their diets, according to USDA scientists and University of Maryland researchers. They tested 24 volunteers who had been identified as carbohydrate sensitive. For six weeks, each volunteer ate a diet of either 5, 8 or 33 percent of total calories in the form of sucrose.

Six of those consuming the 33 percent sugar diet developed a condition in which the blood carries amounts and kinds of fat that have been linked with heart disease.

The average American gets about 18 percent of his or her calories from sugar, but some persons who like sweet foods and beverages could easily approach the 33 percent mark, according to the researchers.

* * *

Eating Less with More to Show for it -- Food consumption data gathered by the USDA indicate that Americans are eating fewer calories and more nutritious diets, but they are still just as fat as ever and they may be getting fatter.

Mark Hegsted, the USDA's human nutrition administrator says, "About the only interpretation of this finding possible would be that Americans are becoming increasingly sedentary. There is essentially no evidence that those who are obese consume more food than those who are not."

* * *

Risky Canning Practices -- Many American families are still taking chances in the way they can foods at home. USDA research indicates that at least one out of three households still uses peanut butter, coffee or other types of jars for canning rather than those designed for the purpose.

Similarly, the open kettle method of canning, a technique the USDA recommends only for jellies, was practiced by six out of 10 pickle makers, four out of ten fruit and vegetable canners and three out of ten tomato canners.

About one-fourth of those surveyed reported some spoilage in their home canned fruits and vegetables, often blaming it on lids that failed to seal properly.

* * *

Quick Brown Rice -- Brown rice that can be prepared in one-fourth of the time that it takes to cook regular brown rice is now being perfected by USDA scientists. They expect that the experimental rice will have about a 10 to 14 minute preparation time, compared to the 50 to 60 minutes required for regular brown rice.

The quick brown rice is expected to retain the superior nutrition of regular brown rice. Tests show that it contains 20 percent more protein than raw white rice, about five times the thiamine, eight times the niacin, twice the iron and three times the potassium.

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CURB YOUR
SWEET TOOTH
FOR BETTER NUTRITION

Try to find some new ways to save on the sugar your family uses and everyone may be eating better advises Mary Darling, extension nutritionist at the University of Minnesota.

Did you know that the average person consumes 100 pounds of sugar a year, or about one-fourth a pound per day? Of course this is in various forms besides the dry sugar you add to your morning cereal. Sugar is found in soft drinks, candy, gum, cakes, sweet rolls, canned fruits in syrup and some vegetables.

Here are some suggestions to start you on your way to using less sugar, thus saving food dollars and providing more nutrition for your family:

- * Serve fresh fruit for dessert occasionally, rather than fruit pie.
- * Avoid adding that pinch of sugar to tomatoes, corn, and peas.
- * If you use canned fruits, serve those that are packed in water or light syrup.
- * Use dried fruits, such as raisins, prunes, and dates
- * Drink fruit juice rather than sweet carbonated drinks and ades.
- * Eat an orange rather than a candy bar.
- * Use half the sugar you usually use on dry cereal.

If you have a sweet tooth to satisfy, use corn syrup and honey in some recipes rather than sugar. Check the label or a cook book for other changes to make in the recipe. For instance, syrup and honey are liquids, so you use less liquid in the recipe if you are substituting for sugar. Start yourself a collection of recipes developed for using syrup and honey.

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STOCKPILING FOOD
REQUIRES PLANNING,
CAREFUL ROTATION

At least one current bestseller is advising consumers to stockpile food as a hedge against possible future shortages. Home economists with the Agricultural Extension Service at the University of Minnesota are advising consumers who decide to follow this advice that proper storage conditions and a replacement schedule for shorter lived items are vital.

Mary Darling, extension nutritionist, says, "To maintain quality in any reserve food supply, keep foods in cans or jars in a dry place, preferably where the temperature is below 70° F. and above freezing."

Protection against rodents and insects is also important for long term food storage. Darling recommends putting boxed foods in tightly closed cans or other metal containers.

It's a good idea to draw regularly on the food stockpile so that foods are used while they are still of good quality, Darling suggests. When you put in new items, put them at the back of the shelf to keep older supplies in front.

Canned foods are generally safe to eat as long as the seal is not broken. Don't use the contents if a can has bulging ends, is leaking or if, when the can is opened, there is spurting liquid, off-odor or mold on the food.

Food in glass containers shows spoilage in bulging covers, gas bubbles, cloudiness and films of growth that are visible through the glass. Any food from a container showing signs of spoilage should be discarded immediately without tasting, Darling stresses.

Sugar and salt are about the only foods that can be stored indefinitely. Among the items that should be used within six months are evaporated milk, dried fruit, crackers and chewing gum.

Stockpiling Food--add one

Many foods have a shelf life of about one year. These include dried milk, canned meat, poultry and fish, canned and dehydrated soups, canned fruits and vegetables, cereals, shortening and cooking oils, candy and nuts (canned), coffee, tea, cocoa, flavored beverage products, spices, baking soda and baking powder.

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BUYING CONVENIENCE FOODS?
SAVING TIME MAY MERIT
SPENDING MORE MONEY

Buying convenience foods, even on a tight budget, isn't necessarily wasteful. Your time is valuable and saving it may justify spending a bit more, says Mary Darling, extension nutritionist at the University of Minnesota.

And, in fact, some prepared foods cost the same or even less than foods from scratch. Some examples are juice concentrates, instant mashed potatoes and biscuit and pancake mixes that just need water added.

Many partially prepared foods are quite versatile, she adds. A condensed soup, for example, can be soup and sauce -- half the can fixed as soup at one meal and the other half kept undiluted and stored in the freezer for a sauce or casserole base at another meal.

Other convenience foods can substitute for items that require fussy preparation -- chopping, shredding, squeezing. These save you time to be creative with your meals or for other projects.

Some substitutes:

- 6 ounces canned mushrooms for one pound fresh mushrooms
- 4 ounces canned boned chicken for 1 cup diced cooked chicken
- 1 tablespoon bacon bits for 1 strip cooked bacon
- 1/8 teaspoon garlic powder for 1 medium clove garlic
- 1 tablespoon instant onion flakes for 1/4 cup chopped onion
- 3 tablespoons bottled or frozen lemon juice for juice of one lemon
- 1/3 to 1/2 cup orange juice for juice of one orange

Darling adds that some people can't prepare a food as high in quality as some convenience foods "Limited cooking skills or experience discourage the new cook, and a variety of convenience items can spark monotonous meals." she says.

For others with limited cooking facilities, heating a frozen dinner in a toaster oven may be the difference between eating or not.

-more-

Convenience Foods--add one

So if convenience foods have a place on your shopping list, how should you shop for them? Darling says coupons in newspapers and magazines can introduce you to some at reduced cost. When selecting among similar items, compare cost, quality, convenience and nutritive values. Most food labels identify foods that are good sources of specific nutrients.

Check the major ingredient on main dishes and dinners. Is it meat, gravy or noodles? The ingredient listed first is present in the greatest amount. Other ingredients are listed in descending order of amount.

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SUPERMARKET SAVVY
CAN SAVE YOUR BUDGET

Learn to resist the allure of supermarket signs that proclaim "new" or "special" and you probably will save money, suggests Mary Darling, extension nutritionist at the University of Minnesota.

Sometimes such signs and end-of-aisle specials can be deceiving. Your best protection is to know the grocery store where you shop and to recognize normal every day prices so you can decide for yourself whether the "special" price is really a savings, Darling advises.

Some specials are displayed to encourage impulse buying. Psychologists have found that people associate a jumbled look with bargain prices, so some specials have jumbled displays. "If you can't afford impulse buying, make a shopping list at home and stick to it at the store," Darling says.

Sometimes specials are new products, but that doesn't mean that they are better or less expensive than similar items in other brands. Always compare before buying.

Combination displays are appealing, and can suggest menu variations, but ask yourself if there are other ways you could get the same results. For example, Darling says produce departments often display salad dressings, croutons and other salad fixings. You could use toasted dry bread to make your own croutons for less, and you may already have the makings for a tasty salad dressing right in your cupboard --vinegar, oil, spices and perhaps a small amount of tomato juice or sauce.

If you go to the supermarket seeking an advertised special, be sure you locate the right thing. Above the chuck roasts, for example, is a sign "as advertised." Other chuck cuts may be stocked close by, however, so read the price per pound on the package label to be sure you get the one you intended to buy, she adds.

Watch for hidden price changes. A sales item may have what looks to be a lower price but the weight or item count may have dropped since you last bought the item.

An offer of a cheaper item free when you buy another could hide a price rise. The price you pay for the more expensive item could be absorbing the cost of the "free" item.

Supermarket Savvy--add one

Read weights on sale packages. A jumbo pack of one brand may equal the regular size of another, and save you no money. Twelve ounce packages of bacon look much like one pound packs. Similarly, bottle and box sizes can also be deceiving. What looks like a half pound may be 7 ounces; what looks like a quart may be only 30 ounces.

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NOT ALL CASSEROLES
LIVE UP TO REPUTATION

To many homemakers, "casserole" translates to economy and ease. Unfortunately, however, many popular casseroles fail on both counts, according to Mary Darling, extension nutritionist at the University of Minnesota.

"If your 'budget' hot dish calls for a pound of meat for five people plus a can of soup, sour cream, mushrooms, frozen vegetables, frozen onion rings and shredded cheese, you could have served meat, potatoes and a vegetable more inexpensively in many cases," Darling says.

Nor do all casseroles save time. Darling suggests if a recipe calls for three or more processes to be done at stove-top before going into the oven, you'll spend as much time in preparation as you would for a several course meal, and you'll have as many pots to wash afterwards.

She suggests homemakers evaluate casserole recipes before adopting them. Look first at the ingredients. She says, "Some people reject old-fashioned gravy as too high in calories, but they'll use sour cream liberally. Similarly, herb-seasoned stuffing mix is currently popular as a casserole-topper, but the stale heels of bread found in most breadboxes will serve as well and save money too."

Does the casserole call for several expensive foods? Is it loaded with empty calories or is there real nutritive value in the ingredients? Is it heavily laced with salt both through seasoning and the use of canned soup concentrate? Does it duplicate expensive animal protein by using meat, cottage cheese, eggs and grated cheese all in the same dish?

Casseroles have their place, she suggests. They allow the busy cook to prepare a meal in advance, clean up the kitchen and relax until mealtime. If prepared in large quantities, they also yield a second meal for the freezer.

Casseroles--add one

She worries that some cooks think a can of soup is essential to nearly all casseroles. "You can save money and cans by returning to basic, easy white sauce," she says. "The possible variations are endless with varied seasonings, cheeses, broths and vegetables."

For two cups of a medium white sauce useful in many casseroles, Darling suggests this recipe.

Medium White Sauce

$\frac{1}{4}$ cup butter

$\frac{1}{4}$ cup flour

2 cups milk

$\frac{1}{2}$ teaspoon salt

$\frac{1}{8}$ teaspoon pepper

Melt butter in saucepan over low heat or in the top of a double boiler. Blend in flour. Gradually add milk. Cook, stirring constantly, until thickened. Season with salt and pepper.

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FAMILY VISITS CAN BE ENJOYABLE
BUT STRESSFUL, TOO

Millions of Americans visit relatives each year, but not without some risk.

Paul Rosenblatt, a University of Minnesota family social scientist, and two graduate students recently completed a study of typical out-of-town family visits, part of a Minnesota Agricultural Experiment Station project designed to learn more about how families cope with problems.

The researchers found that both the visited and their visitors perceived the benefits of family visits to be high, the tensions, low. Most visits are filled with food and conversation and are short, usually about three days.

Nonetheless, family visits can be a time of stress. The reasons problems crop up are many, Rosenblatt says. While guests may feel they have no place to go for privacy, the hosts may feel even more strongly that their "territory" is being invaded.

And often, despite good intentions, interpersonal abrasions do occur. Those surveyed in the study reported pressure to do things they really didn't want to do, feeling bossed or treated like a child, and discomfort from keeping secrets and overeating. Others mentioned feeling bored, too much togetherness, and pressure to be someone other than themselves.

However, the researchers learned that private sleeping accommodations help cool tempers, especially if the hosts don't normally use the room for other purposes.

Visits associated with holidays, vacations, or family celebrations are

add one--FAMILY VISITS

marked by more tension than those made in times of crisis. Says Rosenblatt: "It could be that people just work harder at being nice to each other at times of crisis, and a crisis puts the usual frustrations of a visit into perspective in a way that make those frustrations easier to ignore."

The majority of family visits consist of adult children visiting parents. The data indicated that parents seem to enjoy these visits more than their children and seem sadder when the visits end.

Rosenblatt suggests several interpretations--parents enjoy the break from the daily routine or are more able to pass off minor irritations--but he suspects that this finding points to significant underlying differences between generations in how parents and their children feel about one another, which could be a topic of further research.

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GROUND COVERS HAVE
THEIR PLACE, BUT MOST
AREN'T MAINTENANCE-FREE

Tired of lawn mowing and intrigued by the idea of ground covers? Merv Eisel, extension horticulturist at the University of Minnesota's Landscape Arboretum, says ground covers can be useful, but, unfortunately, few are maintenance-free or foolproof to raise.

In fact, Eisel says grass is probably the most versatile ground cover because it can survive foot traffic and can be maintained mechanically. But if you have problem areas such as steep slopes or heavily shaded spots where grass does poorly, popular ground covers could provide an attractive solution.

Ground covers that stay green all winter are generally preferable to those that lose their leaves or die to the ground each fall, Eisel says. Some of the low junipers such as creeping juniper or Japanese garden juniper do well when planted in full sun. Eisel cautions, however, that some junipers are susceptible to juniper blight. Although the junipers spread horizontally and will fill an area, some of the low ones allow quackgrass and dandelions to grow in their midst.

Sumac is a popular ground cover, and its attractive fall colors makes it a handsome addition to the lawn. All sumac species spread by way of suckers, and they are generally able to grow on poor soils. This makes them a good choice for large areas such as steep banks, Eisel says. Cutleaf forms of the staghorn sumac is widely available and usually preferable for landscaping.

Hostas make excellent ground covers, and require as little maintenance as any of the possible plantings, Eisel says. There are many species and cultivars of hostas, and they propagate easily by division. Although generally known as shade lovers, hostas begun in sunny spots will do well. Tall flowers grow out of the low greenery late in the summer. Planted several feet apart, hostas will fill in to form a low mat of attractive leaves.

The native wineleaf potentilla spread by underground rhizomes and will form a dense evergreen cover. The shrub type potentilla can be used for a taller, ground cover. They favor full sunlight and have bright yellow flowers throughout the summer, according to Eisel.

Ground cover--add one

Crown vetch and birdsfoot trefoil grow vigorously and make excellent ground cover for sunny spots. Crown vetch will grow up to about two feet tall and will be covered with lavender pea-like blossoms in July and August. Birdsfoot trefoil features yellow flowers, and a double flowered form 'Double' grows particularly dense.

Eisel adds that many other plants will serve as ground cover if conditions and cultivation practices are right. Success with ground covers depends on matching the type of planting to the site. Most ground covers require soil preparation and hand weeding. Fertilizing and watering may also be necessary for the plants to thrive.

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EFFECT OF MOISTURE STRESS ON CORN GRAIN YIELDS
BY DALE HICKS
EXTENSION AGRONOMIST
UNIVERSITY OF MINNESOTA

High air temperatures and less than normal rainfall have caused low-moisture stressed plants in most corn fields in Minnesota.

While there are some areas in fields where plants have been completely killed, most plants will recover very quickly if rainfall occurs soon. However, grain yields will be affected by the stress that has already occurred.

The yield lowering effect of low moisture stress depends upon the length of the stress and the stage of plant development when stress occurs. Low moisture stress has the greatest effect on corn if it occurs at pollination because tasseling and pollen shed is hastened by the high temperature and ear shooting and silk emergence are delayed.

In addition, less pollen is released and silks are not as receptive to pollen tube growth when the plant is low moisture stressed. These conditions cause a range of ear situations from complete barrenness to ears with less than full kernel set.

Except for "sandy" spots in fields where plants are stunted from the early July stress (due primarily to high air temperature), pollination apparently has been good and will not be a limiting factor in grain yields if rainfall occurs soon. Upper leaves are now beginning to partially desiccate because of the stress (portions of leaves are now completely dead).

If rainfall occurs, tissue that is not completely dead will recover and become functional in grain filling. The leaf area loss due to dead tissue will have an additional effect on lowering yield if the leaf area loss is greater than 10 to 15 percent.

add one--effect of moisture stress

To estimate the effect of the stress on corn grain yield, data from moisture stress studies are cited.

Year	Location of study	No. of days wilting at silking	Percent grain yield reduction
1952	Washington	2-3	22
		6-8	50
1960	Iowa	17	50
1965	Iowa	4	30
1966	Iowa	4	55

These results may serve as a guide in estimating the effect of the low-moisture stress on corn grain yields.

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HAIL ADJUSTERS ARE
USUALLY ACCURATE

Crop loss estimates by hail adjusters who "follow the book" are usually accurate, a University of Minnesota extension agronomist says.

Some loss estimates may be high while others may be low. But the average loss estimate is "slightly higher" than actual yield losses, says Dale Hicks, an agronomist with the University's Agricultural Extension Service.

Hicks has been doing research with corn and soybeans to fine-tune techniques for estimating hail losses to corn and soybeans. At the University's Southwest Experiment Station near Lamberton, a "hail machine" blows crushed ice to simulate actual hail onto soybean plants. Then adjusters from insurance companies estimate the yield loss. At the end of the growing season, the crop is harvested and yield loss estimates are compared against actual yield data.

A training school for hail adjusters is part of the Lamberton project. The hail adjusters receive training in crop production which includes herbicide injury symptoms, insect and disease damage symptoms and nutrient deficiencies.

Goal of the hail research on corn at Lamberton was to see if hail damage estimates made earlier in Iowa and Nebraska would be accurate in Minnesota. "We found that hail loss charts for corn developed in Iowa and Nebraska were accurate for full-season hybrids grown in Minnesota," Hicks says.

The research project is partially supported by a \$3,000 yearly grant from the National Crop Insurance Association, Colorado Springs, Colorado.

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PEAT FOR ENERGY TO BE DISCUSSED AT DULUTH CONFERENCE

Peat as an energy source will be discussed at an international conference in Duluth, Minn., Aug. 17-23, 1980, according to Rouse Farnham, University of Minnesota soil scientist.

Topic of the sixth International Peat Congress is "The Role of Peatlands in a World of Limited Resources--Energy, Food, Fiber and Natural Areas". Conference headquarters will be in the Duluth Arena. About 500 scientists from North America, Russia, mainland China, Africa, and several European and Scandinavian countries will attend. Finland is sending 90 scientists.

"Peat has been used as an energy source for years, but now there's renewed interest worldwide," says Farnham. Farnham is also vice president of the International Peat Society and chairman of the society's U.S. national committee, which is hosting the conference.

About 165 technical papers will be presented on the following topics:

- Soil classification, formation and soil resources.
- Using peat for energy.
- Peat use for agricultural, forestry and horticultural products.
- Peat chemistry and physics.
- Ecology and conservation.

Peat programs of the Minnesota Department of Natural Resources and the U.S. Department of Energy will be discussed. There will also be study tours and trips to various peat areas in northern Minnesota and Canada.

Minnesota has about seven and one-half million acres of peatlands in northern Minnesota. "Very little of it is being used. We have a great opportunity to make wise use of this natural resource," Farnham says.

add one--peat for energy

It's appropriate for the international meeting to be in Minnesota because of the University's active peat research program, say Richard Sauer, director of the University's Agricultural Experiment Station and William Martin, head of the Soil Science Department.

Local arrangements are being handled by the Iron Range Resources and Rehabilitation Board in Eveleth. For more information, contact Donald Grubich, P.O. Box 678, Eveleth, MN 55734. Telephone (218) 749-8260.

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MINNESOTA NUTRITION CONFERENCE SEPT. 22 - 23

The latest research in dairy, swine, and poultry nutrition will be presented at the 41st Annual Minnesota Nutrition Conference on Sept. 22 and 23. The conference will be held at the Thunderbird Motel in Bloomington, Minnesota.

Goal of the conference is to help representatives of ag businesses and industries make better decisions regarding animal nutrition.

Conference speakers include Jimmy Clark, dairy scientist from the University of Illinois, who will speak on protein nutrition of the milking cow and the use of high moisture grain for ruminants. Jerry Sell from Iowa State University will talk on "Dietary Fat Supplementation and Nutrient Rations for Growing Turkeys."

Additional topics are "New Research on Mycotoxins" by Neil Allen, University of Minnesota, and "Amino Acid Nutrition of Swine" by Dave Baker of the University of Illinois.

Other program participants include: Bud Harmon, director of the Swine Research Department at Ralston Purina; Roland Leech, professor of Poultry Science at Pennsylvania State University; and E.R. Miller, professor of animal husbandry at Michigan State University.

The conference is intended for animal nutritionists representing producers, industry, universities, and research organizations. Adult vo-ag instructors, farm editors and technical feed sales people are also invited.

The conference is sponsored by the Department of Animal Science and the Office of Special Programs at the University of Minnesota, the American Feed Manufacturers Association, the Northwest Agricultural Dealers Association, and the Northwest Feed Manufacturers.

The registration fee is \$30 per person in advance or \$35 the day of the conference. For further information or to register, call (612) 373-0725. Or, write to: Office of Special Programs, 405 Coffey Hall, University of Minnesota, St. Paul, MN 55108

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SUGAR AND SWEETENERS
LEADS FOODS
INGREDIENT LISTS

Can you name the leading ingredient added to foods in the U.S. today?

The answer is short and sweet--sugar and sweeteners.

Mary Darling, extension nutritionist at the University of Minnesota, says Americans eat an average of more than 100 pounds of sugar per person each year. As the average calorie intake has decreased, the proportion from sweeteners has increased. This worries nutritionists and other health professionals because sweeteners supply energy, but virtually nothing else.

Darling says, "Americans get about 24 percent of their calories from sugar -- of which 3 percent comes in natural form from fruits and vegetables, 3 percent from dairy products and the balance from sugar added to foods."

She adds that sugar is probably blamed wrongly for many health ills, but it certainly can be linked to dental decay. We spend \$10 billion annually for dental care.

Sweeteners, of course, are more than the white sugar you put in coffee or sprinkle on cereal, Darling explains. There are more than a hundred substances that are sweet. Sucrose, or table sugar, is just the most common. Americans actually are eating less refined cane or beet sugar, but more corn sweeteners each year for a total sweetener consumption that continues to rise.

Much of this switch to corn sweeteners came about in the early 1970s when prices for refined sugar took a leap. Many food and beverage manufacturers turned to corn sweeteners, primarily fructose syrup, which are less expensive.

add one-- sugar and sweeteners

This trend concerns nutritionists because the individual is losing some control over how and how much sugar enters his or her body. Darling says, "Fifty years ago, two-thirds of the sugar produced went directly into the home, which meant that the consumer who bought it could control its use. The balance was used by industry. Today, the reverse is true. The food and beverage industry uses 65 percent of refined sugar, and only about 24 percent goes for home use."

Consumers who are interested in reducing their sugar intake should learn to recognize sources of sugars and nutritive sweeteners, Darling suggests.

Some common sugars include:

* Sucrose -- Obtained from cane and beets, this is the most common sugar. It is sold in either granulated or powdered form.

* Brown sugar -- Sugar crystals contained in a small amount of molasses syrup. Most brown sugar is more than 90 percent sucrose.

* Honey -- This is formed by an enzyme from nectar gathered by bees. Its composition and flavor depend on the nectar source. It is somewhat sweeter than an equal amount of table sugar, but it contains more calories.

* Corn syrups -- These syrups contain varying percentages of fructose and vary in their sweetness accordingly. These are widely used by soft drink manufacturers because they are more economical than refined sugar.

* Sorbital, mannitol and xylitol -- These are sugar alcohols that occur naturally in fruits but are commercially produced from other sources. They are common in so-called sugar-free chewing gum and candy.

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COMMERCIAL FLOWER GROWERS
SHORT COURSE SCHEDULED
AT UM, ST. PAUL

Successful businessmen and leading university experts will share their knowledge of flower production with participants of the "Commercial Flower Growers Short Course" at the University of Minnesota (UM) Sept. 15 and 16.

The course includes a tour of commercial greenhouses in the area and information on improving production and business skills. It will be held at the Earle Brown Center, St. Paul Campus.

The course starts Monday afternoon with a "Back to Basics" presentation by Ray Sheldrake, University of Cornell, Ithaca, N.Y., and David Koranski, UM. They will discuss problems encountered by growers during the past year and plant nutrition.

Tuesday morning includes discussions on insect control by Mark Ascerno, UM; productivity per square foot, Earl Wagoner, Wagoner and Son's Greenhouse, Beaver Falls, Penn.; improved growing techniques for Exacum and Streptocarpus, Bob Lyons, UM; forcing azaleas, Brent Pemberton, UM; improved germination methods for Cyclamen, Mary Stuart, UM; improved growing methods for Christmas cactus and Poinsettias, Richard Johnson, UM; and pot roses, Will Healy, UM.

That afternoon will include discussions of management, marketing and motivation by Lou Berninger, University of Wisconsin; increasing bedding plant production without additional space, Tom Hartman, Greiling's Plant Farm, Denmark, Wis.; and the commercial greenhouse tour. Dinner will be followed by a panel of growers discussing what's new in the industry.

Fees paid in advance are \$30 for both days, \$12 for the first day only and \$21 for the second day only. At the door fees will be \$2 more. For registration information, contact the Office of Special Programs, 405 Coffey Hall, 1420 Eckles Ave., University of Minnesota, St. Paul, MN 55108, phone (612) 373-0725.

The course is sponsored by UM, the Department of Horticultural Science and Landscape Architecture, and the Agricultural Extension Service through its Office of Special Programs. It is open to all interested persons regardless of race, sex, age, color, national origin or physical handicap.

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NITRATE LEVELS IN DROUGHT STRESSED CORN

By Dale Hicks, Extension Agronomist
University of Minnesota

Nitrate nitrogen accumulates in stressed corn plants with the highest concentration occurring in the lower stalk. Nitrate is converted to nitrite in the digestive tract of animals. In sufficient quantity, nitrite causes reduced rate of gain and milk production, depressed appetite, abortion, and ultimately death.

Corn plants take up nitrogen in the nitrate form and store it in the lower stalk where it remains until it is later moved to the leaves, converted into protein, and stored in the grain. When plants are drought stressed, grain filling may be reduced which leaves the nitrate concentration high in the stalk. When plants are severely stressed such that they are completely barren, nitrate levels remain high because there is no grain formation to reduce the nitrate concentration.

We measured NO_3^- -N concentration in drought stressed corn plants grown at the Lamberton station in 1976. We sampled plants that were severely stressed (stunted and barren) and plants which were stunted but had medium sized ears. Nitrate nitrogen concentration for 5 sampling periods was:

Sampling date	Nitrate nitrogen concentration	
	Plants without ears	Plants with ears
	parts per million	
August 18	909	1065
August 25	734	687
August 31	887	586
September 9	813	520
September 15	717	888

-more-

Nitrate concentrations of plants without ears were substantially lower than other reports in the literature (1954 drought stressed corn in Missouri tested 2460 ppm NO_3^- -N). Barren plants we sampled were about 2 feet tall so they were severely drought stressed during the early vegetative period. Root size may not have been sufficient to extract large amounts of NO_3^- from the soil. However, NO_3^- -N concentrations were generally greater than in plants with ears. In a replicated trial in 1974 we monitored NO_3^- -N concentration in corn following leaf defoliation at tasseling. Plants were not drought stressed so early growth was not affected. The no defoliation treatment should have been similar to the situation we are having this year, i.e. normal vegetative growth before plants were drought stressed. At pollination, NO_3^- -N was 1700 ppm which decreased rapidly as kernel filling began. Without kernel filling, NO_3^- -N concentration would probably decrease very slowly as it did in barren plants in 1976 at Lamberton.

In this trial, we applied 200 lb/a fertilizer nitrogen. Many commercial corn fields are fertilized comparably so it is very possible to have corn that would have NO_3^- -N levels high enough to affect animal performance. Recommendations for feeding drought stressed corn are given in Special Report 54, "Using Drought Stressed Corn."

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NEW CORN DISEASE FOUND IN MINNESOTA

A new corn disease in Minnesota called head smut has been identified by plant pathologists with the U.S. Department of Agriculture and University of Minnesota.

The head smut disease was identified near Staples, Minn. on the 320-acre farm owned by the Staples Area Vocational Technical Institute. About 30 acres of the farm is leased by the University of Minnesota for irrigation research. Plant pathologists Erik Stromberg and Herbert Johnson identified the disease.

Stromberg is a U.S. Department of Agriculture plant pathologist stationed with the University of Minnesota's Department of Plant Pathology in St. Paul. Johnson is an extension plant pathologist with the University.

Staples is located 150 miles northwest of St. Paul. "It's important to note that the disease has not been identified in southern Minnesota where much of the state's seed corn industry is located," says Stromberg. Thus far, the head smut disease appears to be isolated on the Staples experimental farm. Special perimeter surveys around the farm have found no evidence that the disease has spread beyond the Staples Vo-Tech farm.

A legal quarantine is in effect on the Staples farm. The quarantine is being administered by the Minnesota Department of Agriculture.

No plant material, soil or mechanical equipment used on the Staples farm will be allowed off the premises without maximum decontamination procedures. About 50 acres of contaminated and exposed crops, including intended seed corn, will be destroyed or converted to ground livestock feed. The quarantine may last for three years or longer.

-more-

This is the first confirmed case of corn head smut in Minnesota. The disease has resulted in 40 to 60 percent yield losses in Texas. The disease also has been reported in Nebraska, Kansas and Ohio, but is most common in the mountain valleys of California, Oregon, Washington and Idaho.

Corn head smut shows up on the tassels and ears and has a stringy, dark brown look. "Instead of tassels and ears, there's only smut," Stromberg says.

In contrast, the common smut familiar to Minnesota corn growers is a "local" infection. The common smut disease appears as smut galls near the infection site (usually the leaves and stalk, but sometimes the tassels and ears).

Plant pathologists think the outbreak at Staples probably originated from infected seed corn brought into the area from another state.

There is no known spray treatment. Farmers who suspect head smut may send samples to the Plant Disease Clinic at the University of Minnesota's Plant Pathology in St. Paul, 55108. Tel. (612) 373-0936.

For more information on the quarantine, contact the Division of Plant Industries, Minnesota Department of Agriculture, 90 West Plato Boulevard, St. Paul 55107. Phone (612) 296-8448

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DROUGHT WILL HIT
CONSUMERS IN 1981

This summer's heat wave and drought through the Midwest and Southwest soon will make itself felt in most family's food budgets, particularly at the meat counter.

Paul Hasbargen, extension agricultural economist at the University of Minnesota, says higher prices for feed grains are increasing previous large losses to livestock feeders and are forcing many producers to cut back on their herds. Eventually, this will mean less red meat available at the supermarket and accompanying higher prices.

He stresses, however, that red meat is currently an average of 5 percent less expensive than it was a year ago, so some of the drought-related price increases are simply precipitating a recovery to where prices were two years ago.

With livestock producers selling off hogs and cattle, supplies will be good and prices fairly steady for a short time, but Hasbargen says once this supply glut is over, prices will climb. By a year from now, he expects to see beef prices 10 to 12 percent higher than their current \$2.35 a pound average and pork prices up about 20 percent beyond the current \$1.30 a pound level.

He adds that retail food prices have actually been a moderating influence on the inflation rate. In May, the index of consumer food prices was only 3.6 percent higher than in December and only about 7 percent higher than a year ago. That same year's period showed an overall index of consumer prices rising more than 14 percent. Prices for food eaten away from home have risen faster than prices for food eaten at home because of rapidly rising labor and energy costs included in restaurant prices.

For the rest of 1980, Hasbargen foresees food prices averaging 9 to 10 percent higher than in 1979. By the end of this year, the increase may be on the order of 10 to 12 percent, however, and the pace will likely surpass the rate of inflation for all consumer goods by mid-1981, he adds.

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August 11, 1980

ENERGY EFFICIENT DAIRY BARN PLAN AVAILABLE

The majority of Minnesota dairymen having medium-size herds prefer stall barns.

Plan C-823 for a 60-cow tie-stall dairy barn, 36' x 152' including two box stalls has been developed by University of Minnesota agricultural engineers. It gives construction details for a modern labor and energy efficient barn.

Feed alleys are designed to accommodate a mechanical cart. Stall platforms are intended for the larger breeds of cattle and are suitable for the use of rubber mats and minimum or no bedding. To increase surface drainage with consequent drier platform surfaces essential for mastitis control, a slope of three inches from front to back is used.

To prevent platform wetting caused by spillage from drinking cups, the cups are located over the feed alley. Grates are used to keep cows' tails out of the gutter and thus promote animal cleanliness. Manure is removed with a gutter cleaner for daily hauling or transfer to a storage of choice.

Windows have a high thermal efficiency and are low in cost and simple to build. Few windows are used for reasons of energy conservation. Their primary purpose is to let people in the barn look out at "necessary" areas.

Complete instructions and construction details are given for the installation of the ventilation system. Inadequate ventilation is common in new dairy barns, despite the amount of money that may have been paid for the system. For this reason ventilation is given special emphasis. A slot-type fresh air inlet system is used. This has proven to be a highly satisfactory way to admit fresh air to a dairy barn. It is easily regulated to meet winter and summer air intake requirements.

add one--energy efficient dairy barn

A multiple fan exhaust system is used. It is designed to provide a minimal continuous exhaust of about four air changes per hour. Air is removed from a low level to conserve heat. This is done by means of a duct built around the fan. This simple procedure is usually overlooked. A second thermostatically-controlled fan is also specified to exhaust through a duct. Three more fans comprise the winter part of the system to give a total capability of 15 air changes per hour.

For summer operation the adjustable part of the slot inlet must be opened to the wide position and the hinged doors under the eaves must be opened. Summer exhaust fans are mounted on the outside of the barn and are covered on the inside by an insulated panel flush with the wall. These are removed for summer use. With all exhaust fans in operation the maximal exhaust capacity is 45 air changes per hour, which is considered a practical upper limit.

This plan consisting of six 17" x 22" sheets, is available from the Department of Agricultural Engineering, 213 Agricultural Engineering Building, 1390 Eckles Avenue, University of Minnesota, St. Paul, MN 55108. The cost is \$4.00.

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CA, IA, 4-D

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Immediate Release

LOW TEMPERATURE, SOLAR GRAIN DRYING DISCUSSED IN NEW HANDBOOK

Farmers and others interested in drying grain with natural or low temperature (including solar) air may wish to consult a new handbook on the subject from the Midwest Plan Service.

The Low Temperature & Solar Grain Drying Handbook, MWPS-22, tells farmers how low temperature grain drying works, what facilities are needed, and how to manage a low temperature drying system. It also gives the most current information available on solar energy and solar's practical on-farm applications.

The handbook, prepared by agricultural engineers from the north central region, explains the principles of low temperature grain drying, the importance of airflow in grain drying, and how to select fans and bins to obtain sufficient airflow. It also gives specific recommendations for managing a system during fall drying and aeration, winter holding, and spring warming or drying. The year with wet grain and cold temperatures is also considered in the handbook.

Supplemental heat is sometimes used with low temperature drying. The handbook gives specific recommendations, including opportunities for using solar energy in grain drying.

The 86-page handbook contains complete information on solar energy, from how much is available to how it can be used on the farm. Detailed construction plans for the home-built solar collectors are included, ranging from portable models and freestanding collectors to collectors with block wall heat storage.

The Low temperature & Solar Grain Drying Handbook, MWPS-22, is available from Extension Agricultural Engineering, 201 Agricultural Engineering, University of Minnesota, St. Paul, MN 55108. The cost of the publication is \$3.00 plus \$.12 tax.

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NORWEGIANS EAT "HEALTHIER" AND FEEL BETTER

For years, the U.S. government has taken an interest in food and nutrition questions through price supports for farmers, food stamps, the school lunch program and food quality assurance programs. But the United States has never had a coordinated food policy, said USDA economist Marshall H. Cohen.

Cohen has recently finished a study of just such a policy in Norway, where programs of nutrition education and government support for both food producers and consumers are aiming at better nutrition.

"Norway's nutrition and food policy, started in 1975, encourages people to eat 'healthier', while it helps farmers increase food production and raises incomes of rural people," Cohen said. "This is the first country in Western Europe to have such a coordinated policy."

Cohen said food consumption patterns in Norway changed radically during this century, giving nutritionists and policymakers a "laboratory" in which to study the possible relationships between food and disease.

During the World War II German occupation of Norway, sugar consumption declined from pre-war levels, people ate less fat and more grain, flour, bread, potatoes and vegetables. "Observations made during this period showed deaths from cardiovascular disease dropped and tooth decay among school children decreased, from pre-war levels," Cohen said.

Since the war, Norwegian consumption of sugar and saturated fat increased and so have cardio-pulmonary disorders, tooth decay, obesity, certain digestive disorders and iron deficiency anemia, said Cohen. The Norwegian government is trying to reverse this trend and improve its citizens' health.

add one--norwegians eat healthier

Nutrition information about the relationships between food and health has already had an impact on Norwegian eating patterns: total consumption of margarine has declined, the proportion of unsaturated fat in margarine has increased, and the consumption of skim milk has nearly doubled between 1971 and 1977, said Cohen.

The Norwegian Nutrition and Food Policy, begun in 1975, includes policies dealing directly with nutrition and food, as well as programs for increasing domestic food production.

The Norwegian policy contains these food consumption goals for 1990:

--Grain consumption will increase 29 percent, potato consumption will go up 17 percent and fish consumption will increase 31 percent over 1977 levels.

--Beef and veal consumption will hold constant at 1975 levels (that is, go down 10 percent on a per capita basis between 1977 and 1990).

--Use of skim milk will increase and use of whole milk and cream will decline.

--Consumption of sugar will go down.

--The proportion of energy from fat will be reduced to 35 percent; margarine consumption will be reduced; and the proportion of poly-unsaturated to saturated fat will be increased.

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Writer: Deedee Nagy (612) 373-1781

FOOD COLORS ADD EYE APPEAL,
ARE SAFE, U OF M EXPERT SAYS

"Food doesn't taste 'as it should' when it's not colored 'right'," according to Isabel D. Wolf, extension foods and nutrition specialist at the University of Minnesota. She cites a Scientific Status Summary issued by the Institute of Food Technologists in which deceptively colored flavored sherbets (green-colored grape flavor, for example) confuse tasting panels. In a large share of the cases, the panels identified such sherbets (green-colored grape flavor, for example) confuse tasting panels. In a large share of the cases, the panels identified such sherbets incorrectly. Other studies cited in the summary indicate that food colors can also alter a consumer's impression of the strength and quality of a food's flavor.

The IFT status summary discusses many of the reasons for using food colors, which have been widely criticized as serving primarily "cosmetic," non-nutritional functions. The argument usually made is that if all food colors were banned, no product would have a competitive advantage. Mrs. Wolf points out, however, that under these conditions, naturally colorful foods would have an advantage in the supermarket which had no nutritional basis in fact.

The IFT summary, states that with growing food shortages and increasing numbers of people seeking to cut calories, "we must make available a greater range of foods with high nutrient density and as much appeal as possible. Legislation to ban food colorants would create a dilemma for this aspect of our national nutrition program."

The food color industry essentially started when an entire range of artificial colors was developed from coal tar in the mid 1800s. Today, seven "FD&C Colors" made from synthetic compounds are presently allowed for general use in the American food supply. In addition, 12 colors derived from naturally occurring sources such

-more-

add one--FOOD COLORS

as paprika and saffron are available for food use.

The approved synthetic colors have been tested on laboratory animals for their toxicity. In addition, samples of every batch manufactured are sent to the U.S. Food and Drug Administration for certification, to ensure that they are identical to those tested earlier.

Safety testing in food colors is sometimes controversial, according to Mrs. Wolf. FD&C Red No. 2, as an example, had its provisional listing withdrawn by the FDA, so it cannot be used in food in this country. It is, however, permitted in foods in Canada, Sweden, Denmark, W. Germany, Japan and several other countries.

Colored food juices such as spinach, beet or berry juice have been used for centuries as colorants. Most of these juices taste like their original foodstuffs, however, and the amount that can be used is limited by that taste. Also, natural pigments in general are not as stable under varying conditions of temperature and acidity as artificial colors.

If, on the other hand, the colorant in a natural foodstuff is concentrated to increase its coloring power, the concentrate must be cleared for safety in the same way as an artificial color compound, Mrs. Wolf adds.

All in all, the IFT summary states, "Food colors present a paradox. With a few exceptions, they contribute nothing nutritionally, yet they are important because they make foods appealing. Certainly they are not necessary for our survival... Questions of the safety of food colors are frustrating because in their complexity, they have no simple answers."

Mrs. Wolf says recent publicity given to the so called Feingold diet as it relates to hyperactivity in children singles out synthetic food colors. "In controlled tests, a small percentage of children react to food colors, but in nowhere near the proportion that Dr. Feingold claimed and only at high doses of colorants. These symptoms appear to be allergic reactions, most typically to FD&C Yellow No. 5, tartrazine."

-more-

One obvious alternative to using food colors, according to the IFT, is to re-educate the consuming public to accept uncolored food products. Colorants are most widely used in candy, gum, soft drinks and baked goods--not food generally needed to supply the four basic food group requirements, Mrs. Wolf adds. Even in these food categories, however, she wonders if it's possible to get widespread acceptance of uncolored foods. "Is it even an acceptable alternative for most people who enjoy food?" she asks.

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add one--FOOD COLORS

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-more-

add two--FOOD COLORS

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HOME ECONOMICS SYMPOSIUM
SCHEDULED OCTOBER 3

A symposium on a variety of professional concerns and philosophies within home economics will be held on the St. Paul campus of the University of Minnesota on October 3. The event is in honor of Marjorie M. Brown, retired University professor of home economics education.

"The Critique of Professional Practice in the Field of Home Economics" is the symposium's theme. The keynote speaker will be Michael Apple from the department of curriculum and education at the University of Wisconsin.

Fee for the symposium is \$12.50. For further information and to obtain registration materials, contact Grace Wahlert, 32 McNeal Hall, University of Minnesota, St. Paul, MN 55108.

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METRIC BOARD MEASURES
METRIC CONVERSION AMONG U.S. FIRMS

Six percent of the sales by the nation's top industrial firms are from products that are made to metric dimensions, according to a recent survey commissioned by the United States Metric Board. However, the survey noted little evidence of comprehensive corporate level metric planning and coordination, adds Edna Jordahl, extension family resource management specialist at the University of Minnesota.

The Metric Board survey, a selected random sample of Fortune Magazine's top 1000 industrial firms, assessed the status of metric conversions in terms of sales of metric products and the extent of corporate metric planning and coordination activities.

An additional five percent of sales income involves products with both metric and customary components, while over twenty-percent of sales are of products labeled in metric units.

Sixty-three percent of the largest industrial firms sell products that are either made to metric dimensions or carry metric information on the labels. About half of all large companies sell "soft-converted" (dual labeled) items while about one-third of the companies have "hard-converted" (metric dimensioned) some of their products to metric standards.

Meeting international standards, international acceptance, and customer demand were the most frequently mentioned reasons for converting to the metric system, the survey noted.

About one-third of the responding firms said they felt there is some form of legal impediment of metric conversion. Fully half of the firms singled out the absence of customer demand as an important inhibiting factor to metric conversion.

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August 18, 1980

Note to Home Economists: These brief food notes by some of your colleagues were compiled for a handout for this year's Redwood County Fair. We share them with you with the thought that you may find the information on sugar and salt useful as filler items in your columns and newsletters.

FOOD BRIEFS

Whither sugar---Americans use an average of more than 127 pounds of sugar and sweeteners per person each year. Carbohydrates and sweeteners supply energy and provide variety and interest to foods. The choice is up to you. For fewer dental problems and easier weight control, choose food with less "added sugar." The chart below may be helpful, but note the serving size and adjust the totals if serving more or less.

Food	Serving Size	Teaspoons Added Sugar Per Serving	OR	Equivalent number of sugar cubes Per Serving	Percent Of Calories From Sugar
Water	12 oz.	0		0	0
Orange Juice	4 oz.	0		0	0
Grape Juice, froz. conc.	6 oz.	1		2 cubes	15%
Coke	12 oz.	9 1/2		19 cubes	99%
Hi-C Orange	6 oz.	5		10 cubes	81%
Kool-Aid	6 oz.	5		10 cubes	98%
Apple	1	0		0	0
Applesauce, sweetened	1/2 cup	3 1/2		7 cubes	57%
Apple Pie	1/6 of 8"	6		12 cubes	40%
Pears, heavy syrup, liquid & solid	1/2 cup	3		6 cubes	59%

*This information is for educational purposes only. References to commercial products or trade names is made with the understanding that no discrimination is intended and no endorsement by the Minnesota Agricultural Extension Service is implied.

Note: 4-5 grams sugar=1teaspoon, 1 cube of cocktail sugar=1/2 teaspoon

Food briefs--add one

Sugar, Sugar, Sugar---Commonly eaten sugars and sweeteners offer little nutritionally except calories, and more calories than you need will make you fat. It doesn't matter whether they come from sugar or some other source.

When sugars and sweeteners make up a substantial share of your calories, they may replace other foods that offer vitamins, minerals and protein in addition to calories. Most people like sweets so it's easy to eat more of them --and more calories--than you realize. Here are some tips if you are concerned about the level of sugar in your diet.

* Become a label reader. Sugar is not the only word to look for. Watch for sucrose, glucose, dextrose, fructose, corn syrups, corn sweeteners, natural sweeteners and invert sugar. Also check the carbohydrate information on the labeling panels of breakfast cereals. You will see the "starch and related carbohydrates" listed separately from "sucrose and other sugars."

* Try reducing the sugar in favorite recipes. Be prepared, however, for products that may look and taste different.

* Go easy on candy, pies, cakes, desserts and cookies.

* Drink fruit juice or plain water instead of soda pop, punch, fruit drinks and ades, which are high in sugar.

* Buy fruit canned in its own juice or in light syrup.

* ' * *

Salty Tales---Salt contains sodium and chloride -- both essential elements. The major hazard of excessive sodium (salt) is for high blood pressure sufferers, and not everyone is susceptible to that problem. In the U.S., about 17 percent of adults have high blood pressure. If persons with high blood pressure restrict their sodium intake, their blood pressures usually fall although not always to normal levels.

If you're watching your salt consumption, here are some pointers.

* Learn to enjoy the unsalted flavor of foods and try other seasonings -- pepper, lemon juice, onion or paprika.

* Leave the salt shaker in the cupboard. Add little or no salt at the table.

* Remember that canned vegetables already have salt added. Canned soups, processed meats and ready-to-eat main dishes also have considerable salt.

Food briefs--add two

* Watch your snacks. Potato chips, pretzels, nuts, salted popcorn and some crackers can add salt to your diet. Snacks and other foods containing soy sauce and garlic salt are best avoided and so are pickled foods.

* Become a wary label reader to determine the amounts of sodium in processed foods and snacks.

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MOLASSES POPULARITY
ON THE RISE AGAIN

In the present controversy over the amount of refined sugar and "empty calories" in the American diet, molasses with its small amounts of trace minerals is being discussed as a more nutritious substitute for refined white or brown sugar, says Mary Darling, extension nutritionist at the University of Minnesota.

Historically, molasses was once as important to our politics as it was to our kitchens, Darling says. Molasses tariffs imposed by England triggered rumblings of the rebellion that led to the Revolutionary War. Jugs of molasses filled by country storekeepers from barrels in their stores sat in every colonial kitchen. There it was the basic -- and often the only -- sweetener.

There are three types of molasses, according to Darling:

Unsulphured molasses is the sweetest. It is the concentrated juice of sugar cane that has been processed for molasses. It is sweetest because the boiled down cane syrup contains all the sugar that was in the juice as well as some minerals, particularly iron. It contains no additives nor any of the sulphur dioxide sometimes found in other types of molasses.

Ordinary molasses is a by-product of sugar refining. The more extractions of sugar there are, the less sweet the resulting molasses and the higher the mineral content. This molasses sometimes contains residues of sulphur dioxide used during the sugar refining process.

Blackstrap molasses is what remains after all the commercially available sugar has been extracted. It has a high concentration of minerals but offers little sweetness. Its principal use is for livestock feed.

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HOMEMADE BROWN SUGAR
FOR WHEN THE COMMERCIAL
KIND HAS TURNED TO ROCK

What baker hasn't been wrist-deep in a cookie-baking session only to discover that the brown sugar on the shelf has turned to rock? If it happens again and you have molasses on hand, you can make your own.

Commercial brown sugar is often made by blending molasses with white sugar crystals. So all you need to make your own brown sugar is molasses (the unsulphured type works best) and white sugar.

For the equivalent of one-half cup brown sugar, blend one-half cup granulated sugar with two tablespoons molasses. These same proportions will work for larger or smaller amounts too.

In recipes that call for brown sugar to be mixed with several other ingredients, just add the molasses and sugar separately. There is no need to preblend the sugar and molasses first.

Homemade brown sugar can be stored for short periods in a plastic bag, but it becomes sticky so it is best to make it as needed.

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Money Briefs

Tax Benefits--Minnesota gives its senior citizens a tax break. Eligibility was once based on age and income, but since 1975 there has been little limit.

Edna Jordahl, extension family resource management specialist at the University of Minnesota, reminds senior citizens that those on pensions are eligible for exclusions from some taxes up to \$11,000 in yearly income. The exclusion is reduced dollar for dollar if the individual's federal adjusted gross income exceeds \$17,000.

The Internal Revenue Service offers free pamphlets explaining federal tax benefits for older Americans. "Tax benefits for Older Americans", pamphlet 554, is updated yearly and is available from your nearest IRS office. Pamphlet 575 "How to Report Pensions and Annuity Incomes" is also available there at no charge.

In addition to federal benefits offered to senior citizens, Minnesota gives its older residents a break. Among the benefits offered primarily to those 65 and older are:

- * Higher filing requirements
- * Additional tax credits of \$60 starting this year
- * A \$100,000 once-in-a-lifetime exemption on gain for sale of one's home.
(This applies to persons 55 or older who have lived in the home three of the past five years.)
- * A pension exclusion. Pension income up to \$10,000 can be subtracted from income. This \$10,000 is reduced by any adjusted gross income exceeding \$17,000, but Social Security and railroad retirement income no longer reduce the pension exclusion.

Retirement Budgeting--What does retirement cost? The Bureau of Labor Statistics calculates yearly budgets for retired couples based on three levels of living. These budgets do not include income taxes, and the "medical item" refers to estimated out-of-pocket costs for Medicare. If you have personal records or estimates of what you spend for these items, you can figure your own budget.

Component	Lower Budget	Intermediate Budget	Higher Budget
* Total budget	\$5,514	\$7,846	\$11,596
Total family consumption	5,276	7,374	10,721
Food	1,725	2,299	2,884
Housing	1,831	2,641	4,139
Transportation	360	701	1,299
Clothing	220	369	568
Personal care	156	229	335
Medical care	765	769	774
Other family consumption	220	366	722
Other items	237	472	875

* Because of rounding, sums of individual items may not equal totals

Mrs. Jordahl adds that the budgets are generally lowest in nonmetropolitan areas and in the South. Highest average figures come from northeastern and western cities and from Anchorage and Honolulu. Increases over the past year are largest for medical care and food, each rising about 13 percent. Housing and transportation costs rose an average of between 5 and 7 percent.

* * *

Working Wives--Nearly 60 percent of the nation's wives worked at some time during the past year, earning an average of \$5,100 or about 25 percent of their families' income.

Edna Jordahl, extension family resource management specialist at the University of Minnesota, says working wives' contributions varied widely depending on whether they worked full or part-time and their years of experience. When she worked year round, full time, she contributed nearly 40 percent compared with 11 percent when she worked half a year or less.

The Bureau of Labor Statistics reports that black wives generally contributed more to family income than white wives, partly because of lower earnings by black than white husbands. The average contribution of black wives was 33 percent compared with 25 percent for the white wives.

* * *

Multi-earner Families--Fewer and fewer families now live on a single income, according to data from the U.S. Department of Labor. Three out of every five husband-wife families reported last year that at least two family members were earners. Since 1970, the number of such multi-earner families has increased by three million, most because increasing numbers of women are now working.

Edna Jordahl, extension family resource management specialist at the University of Minnesota, reports that last year, 85 percent of the multi-earner husband-wife families had both the husband and wife working. This is up from 81 percent in 1970. In 1979, 13 percent had the husband and another family member other than the wife working and two percent had two earners other than the husband who was not working.

* * *

Moonlighting--One out of 20 workers in the U.S. was a multiple jobholder in 1978, according to the most recent statistics available from the U.S. Department of Labor. This is about the same portion of second jobholders as in the early 1970s and the mid 1960s.

Edna Jordahl, extension family resource management specialist at the University of Minnesota, reports that multiple jobholding rates were highest among workers in middle-age groups (25 to 54) and lowest among younger and older persons. Men were more likely to moonlight than women, but women moonlighters tend to hold two part-time jobs rather than one full time job and a second part time one, as is the pattern for men.

By occupation, professional and technical workers and farmers and farm managers are most likely to hold second jobs. Men employed as teachers below the college level and as policemen and firefighters had the highest moonlighting rate. Post office employees and other state and local government employees also had high rates of multiple job holding.

* * *

Worker's Education Levels--American workers are better educated now than they were a few years ago. Data from the Department of Labor show that the educational level of workers rose to an average of 12.6 years of school completed in March 1978. At that time 34 percent of workers 16 years old and over completed at least a year of college. This compared with 28 percent in 1973.

Edna Jordahl, extension family resource management specialist at the University of Minnesota, says that much of the increased labor force participation among persons with some college can be accounted for by women. A larger percentage of men (19 percent) than women (14 percent) had completed four years of college, however.

Education correlates with levels of employment. Although persons at all educational levels had higher unemployment in 1978 than five years earlier, those with less education showed more unemployment. Among those with less than a high school diploma, unemployment rose from 8.9 to 12.4 percent between 1973 and 1978. For those with college degrees, unemployment rose from only 2.1 percent in 1973 to 2.5 percent in 1978.

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**DUE TO COLLECT
SOCIAL SECURITY?
HERE'S HOW TO BEGIN**

Social Security checks don't begin arriving magically when you reach the qualifying age. You must first take some steps to get the system working for you, says Edna Jordahl, extension family resource management specialist at the University of Minnesota.

The earliest you can apply for Social Security is three months before you are eligible to receive your first payment. Call your local Social Security office and a representative there will send you a form to complete and sign.

Mrs. Jordahl says the applicant must be able to prove his or her age and should be prepared to reconcile any discrepancies that may arise from past earning records.

Once you begin receiving Social Security, you must fill out an annual income report by April 15, she adds. Your local Social Security office also must be informed of any change of address so that your checks aren't delayed or lost.

She reminds persons approaching retirement age, that the wife of a Social Security recipient is eligible to receive up to half of her husband's earned credit if she waits until age 65, or she can receive 37½ percent if she applies for benefits at age 62. A disabled widow can receive benefits at age 50. The widow of a recipient will receive up to 100 percent of her husband's benefit if she is widowed after the age of 65. If widowed earlier, her benefits will be reduced according to her age if she opts to draw benefits early.

Most Social Security recipients can earn up to \$3,720 a year without penalty. Earnings above that are reduced by withholding half the amount over the maximum allowed earnings. For example, a recipient earning \$1,000 over the \$3,720 will have lost \$500 through withholdings from future monthly checks.

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CA

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Tel. (612) 373-0710
August 18, 1980

HOW WELL ORGANIZED
ARE YOUR BUSINESS,
PERSONAL DOCUMENTS?

No one likes to think about possible emergencies that could arise, but a bit of forethought could save your family members considerable misery if such situations face them.

Edna Jordahl, extension family resource management specialist at the University of Minnesota, suggests that all persons keep key phone numbers handy and inform family members or close friends on the locations of many personal and business documents.

As a part of planning for the future and setting personal goals, Mrs. Jordahl advises taking a close look at the current state of your records.

Do you have a list of important phone numbers in a conspicuous place? A folder titled "In Case of Emergency" may be placed in the beginning of a filing system. Telephone numbers of your physician, hospital, ambulance, police, fire department, church, clergyman, children and relatives, funeral director and executor of your will could be beginning information.

In addition, Mrs. Jordahl suggests informing a number of your family members and close friends about where personal information and documents are filed. These would include Social Security numbers, military records, birth certificates, retirement and personnel records, marriage license, divorce decrees, burial plans, organization memberships and obituary data.

In the area of business documents, be sure that family and friends know the whereabouts of wills, household or business inventory statements, financial and tax records, insurance policies including the agents' names and telephone numbers, pension documents, debts, titles to cars and real estate, keys to home and business and safe deposit box, savings and checking account records, investment records, warranties and repair persons for problems with plumbing, electricity, furnace, and appliances.

Department of Information
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Source: Elwin Stewart
612/373-1383

Writer: Deedee Nagy
612/373-1781

WATCH CHILDREN AT PLAY WHEN LAWN MUSHROOMS FLOURISH

A formula for danger is to take young children and mix in small brown lawn mushrooms growing abundantly in their outdoor play areas.

This combination has hospitalized at least one Twin Cities child recently and has caused alarm for several other parents of young children, according to Elwin Stewart, associate professor of mycology in the plant pathology department at the University of Minnesota.

Serving as resources for a local hospital and poison control center, Stewart and his colleagues occasionally must identify the partially eaten remains of a mushroom that a child has downed. "As parents know, children will put anything in their mouths and in the case of mushrooms, the results can be dangerous," Stewart says.

He adds that the problem usually arises after a rain. Mushrooms put on a flush of growth in damp conditions. Although not all lawn mushrooms are toxic, Stewart stresses that only a trained, serious mushroom hunter, a taxonomic mycologist or a plant pathologist can accurately distinguish between poisonous and non-poisonous types. If your child eats a lawn mushroom, get him or her to a hospital emergency room immediately, Stewart urges.

If you notice mushrooms growing out of your lawn, Stewart suggests raking them up and discarding them where children and pets can't get to them. The plant disease clinic staff at the University will not attempt to identify mushrooms from information supplied over the telephone.

CA, TCO, & 4HE-I

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NEW HOT LUNCH PATTERNS
WILL GREET BACK-TO-SCHOOLERS

Shoes and pencil cases aren't the only things that will be new when children begin school this fall. New also will be the guidelines governing school lunches.

Louise Mullan, extension food service management specialist at the University of Minnesota, explains that new rules issued by the U.S. Department of Agriculture are based on recent surveys of children's eating habits and nutritional needs.

"The rules encourage schools in the National School Lunch Program to tailor meal and portion sizes to the eating habits of children," She says. "The measure is intended to reduce plate waste among younger children and also do a better job of meeting the nutritional needs of older children."

This is the second major change in school lunch meal patterns recently. The first changes were put forth two years ago on an interim basis and the public was invited to comment. Today's final regulations reflect findings and comments about meals gathered during the past two years.

Mullan explains that the new rules recommend that:

- * Schools serve different sized portions of food to children of different ages. Schools will have the option of providing smaller servings to younger children and larger portions to older students.

- * Residential child care institutes participating in the federal program serve two small meals that together provide the lunch pattern requirements to children aged one to five. USDA officials made this change because it seemed to be more in line with the eating habits of very young children.

In addition, schools will be required to:

- * increase the required servings of eggs and dry beans to make them nutritionally equivalent substitutes for meat and other meat alternates.

Hot lunch patterns--add one

*increase the number of bread servings required to provide children with the higher levels of iron and other nutrients spelled out in the 1974 list of recommended daily allowances (RDAs).

Meal patterns specified by the school lunch program are used to insure that lunches in all parts of the country meet nutritional requirements. The approved pattern, once called Type A lunch, includes meat or a meat alternate, fruit and/or vegetable, bread or bread alternate and milk, Mullan says. The lunch requirements are reviewed regularly to be certain they reflect new research about nutrition and children's eating habits.

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CA 4HE I & II

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HONEY IS NO SURE CURE
FOR EXCESS SUGAR IN DIET

Sugar has been getting a lot of "bad press" lately, and some consumers are turning to honey in an effort to use less table sugar.

Unfortunately, says Mary Darling, extension nutritionist at the University of Minnesota, honey contributes to the problems too. If the person is turning to honey to avoid unneeded calories or other health problems thought associated with table sugar, he or she may be misled.

Darling explains that table sugar is sucrose, which consists of glucose and fructose. Glucose and fructose are also the two major components in honey. Although honey's flavor is influenced by the source of the nectar -- clover, blossoms, sage -- its components are the same as those in table sugar.

"Honey does provide more sweetness to a food than an equal quantity of table sugar, but a cup of honey contains more than 1,000 calories compared to 770 in a cup of table sugar," Darling says. "Honey contains a few trace minerals not found in table sugar, but the amount is really insignificant. Probably the chief merit of honey over sugar is its distinctive flavor. And, for some people, honey seems to satisfy a craving for sweets more readily than does sugar."

Foods made with honey generally have more color and a slightly different texture and flavor than those made with sugar. Cakes and cookies stay moist longer when made with honey. Candies and meringue made with honey may absorb so much moisture from the air that they become soft and sticky quickly.

CA, 4HE I & II

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Source: Brad Majek (612) 373-1181

Editor: Jack Sperbeck
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PARAQUAT LABEL CHANGE TO AID CROP HARVEST

Paraquat (Paraquat CL) label recommendations as a harvest aid to dry or desiccate "indeterminate" soybeans and sunflowers have been changed to improve application timing.

Paraquat has also received a temporary label clearance from the Environmental Protection Agency (EPA) as a harvest aid for dry edible beans, according to Brad Majek, extension agronomist at the University of Minnesota.

No label change has been proposed for "determinate" soybeans, grown mainly south of the Minnesota border.

The old paraquat label for all soybeans recommended, "apply when soybean plants are mature, i.e., beans are fully developed, at least one-half of the leaves have dropped, and leaves left on plants are turning yellow."

The label has been changed for indeterminate soybeans, which are widely grown in Minnesota, to read "apply when at least 65 percent of the seed pods have reached a mature brown color or when the seed moisture is 30 percent or less."

The paraquat label for sunflower harvest aid desiccation recommended that paraquat be applied "When the heads are yellow and the bracts are turning brown." This was considered to be a good indication of physiological maturity. However, this is not always the case with some of the new hybrid varieties, Majek says.

add one..paraquat labeling

Some of the new varieties may not be mature when the heads are yellow, or may mature when the heads are still green. The application of paraquat to sunflowers that are not physiologically mature will result in reduced test weight and reduced total yield.

Percent moisture in the sunflower seed is a much more reliable test for physiological maturity, Majek says. The paraquat label has been changed to read, "Apply when the seed is at 35 percent moisture or less." Physiological maturity has been reached in the sunflower when the moisture in the seed is 35 percent or less regardless of head color.

The temporary emergency label for paraquat use as a harvest aid in dry edible beans is limited to Minnesota and North Dakota and is valid for only two months, Aug. 1, 1980 to Sept. 30, 1980. The label recommends the use of one-fourth to one-half lb. A.I. per acre (1 to 2 pints) with one quart of X-77 spreader per 100 gallons of water for desiccation.

The high rate should be used on pinto beans. The low rate should be used on kidney or navy beans unless a large amount of green foliage is present. Application should be made when 75 percent of the beans have obtained their final color.

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CA, IA, 4FC

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(A) 2/4

DO YOU USE CLOTHING COLORS AS ALLIES OR ENEMIES?

Colors can make or break an outfit, and knowing how to select colors for a person's wardrobe can mean the difference between wise and wasteful shopping.

The key to a well coordinated, flattering wardrobe lies in your own hair, skin and eye coloring, according to Patricia Tarara, color consultant with Color 1 Associates in St. Paul. She spoke to participants in the 4-H Fashion Revue at the Minnesota State Fair and urged them to take their body colors into account when buying or sewing garments.

"The idea is to use color well, not necessarily to spend a lot of money," Tarara said. She works with clients to select colors and shades that flatter and enhance one's natural coloring.

Nearly all persons fall into one of four coloring groups, she told the 4-H'ers. Two have vivid color while two are more toned down.

Persons with contrast coloring often have dark hair and eyes and contrasting skin tones. Bright colors and bold patterns most enhance this coloring group.

The coloring group she calls "light brights" are often blondes with light or tanned skin. Like persons with contrast coloring, light brights do well in bright colors, but smaller patterns and more whites or pastels in the patterns are particularly flattering, she adds.

Persons with soft coloring often have light brown or ash blonde hair with brownish tones to their skin. This delicate combination can be overpowered by vivid colors, but neutrals and toned down colors are becoming. So are small, subtle prints.

add one--colors allies or enemies..

"Brown on brown" is the way Tarara describes the fourth coloring group. These persons have brown hair and brown skin tones, often with red or bronze hair highlights that are enhanced by earth tones and muted colors.

Because hair color is so central to a person's appearance, Tarara suggested reproducing that color at key places in an outfit. Belts, jewelry, hosiery and handbags can all suggest hair color or highlights effectively.

Be cautious of pure white used near the face. This can detract from your teeth and smile, she said. Few of us have perfectly white teeth so ivory or slightly yellowed or grayed shades of white drain less color from the face.

With age, our coloring tends to fade slightly but remains surprisingly stable. "The basic tones remain with us for a lifetime," Tarara said. "Most colors that are flattering to us as teenagers will be equally becoming during middle age and beyond."

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CA, 4HE I & II

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CONSIDER INVESTMENT DRESSING WHEN BUYING CLOTHES

When buying clothing, more than just the cost of the garment should affect your decision. Upkeep and wear life are just as important, according to Sherri Johnson, extension textiles and clothing specialist at the University of Minnesota.

Speaking to 4-H Fashion Revue participants at the Minnesota State Fair, Mrs. Johnson stressed careful wardrobe building. As winners at their local county fairs, the Fashion Revue participants participate in a day-long session of modeling instruction and consumer clothing buying tips.

Although most of the nearly 200 Fashion Revue participants during the length of the Fair bring outfits that they have sewed, Mrs. Johnson spoke to them about buying clothes.

"With more women working outside the home, the day is gone when we make everything we wear," Mrs. Johnson said. "Even for experienced home sewers, building and planning a wardrobe carefully is a big consideration because all clothes -- both purchased and constructed -- cost more today."

One way to be an alert consumer is to practice "investment dressing." Mrs. Johnson said this takes account of the cost per wearing for a garment. For example, a jacket priced at \$35 that you will wear about three times a week for four months out of a year will cost 37 cents a wearing.

Similarly, a pair of \$39 shoes that you expect to wear three times a week for a year would cost about 25 cents per wear.

add one--investment dressing

Mrs. Johnson offers these investment dressing hints:

- * Build on the good clothes you already own.
- * Invest clothing dollars in clothes most frequently worn. The more often you wear a garment, the better the construction and fabric should be.
- * Buy separates to allow more clothing combinations.
- * Buy items with multi-purpose use.
- * Consider upkeep. The time and money needed to clean, press or otherwise care for clothing can be reduced through wise buying. Dry cleaning or special care cost can be more expensive over the life of the garment than the purchase price.
- * Select seasonless clothes as much as possible.
- * Avoid fad items that will get limited use.
- * Avoid garments that require special undergarments or accessories.

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CA, 4HE I and II

Department of Information
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September 2, 1980

FARM INCOME
DROP EXPECTED

Farm income in Minnesota and the Dakotas will drop slightly in 1980--less than the 30 percent figure projected nationally by the U.S. Dept. of Agriculture (USDA).

Farmers in the three-state area had near-record earnings in 1978. But earnings dropped sharply for most farm types in 1979 and another drop is expected in 1980, according to Paul Hasbargen, economist with the University of Minnesota's Agricultural Extension Service.

Dairy and beef cow operations maintained their stronger net earnings during 1979. Dairy farmers in non-drought areas may have additional income gains in 1980, Hasbargen says. But beef cow operations will have lower earnings due to higher costs--even if feeder prices reach last fall's level.

Grain farmers with near normal yields should have 1980 earnings roughly equal to 1979 income due to increased prices. However, producers in drought areas will have less to market and lower incomes.

Hasbargen says that all livestock finishing operations--beef, hogs and lambs--are apt to show sharply reduced earnings in 1980.

"Farm incomes in 1980 will vary even more than usual by location, farm type and size, debt position and management level," Hasbargen says. "But most farms will probably have lower net farm earnings due to a 20 to 25 percent jump in crop production costs and low market prices for the first half of the year."

For the last quarter of 1980 and the first half of 1981, farm income prospects look "much improved" over the past marketing year, Hasbargen says. "The smaller crop will be marketed at higher prices--sharply higher for sunflowers, soybeans, sugarbeets and potatoes. And expected improvement in crop earnings and continued high inflation rates will again push up land prices," he says.

Farm income--add one

Meat supplies will be lower and livestock prices will increase more than enough to offset higher feed costs. Hog enterprises and cattle feeding will probably have above average earnings--offsetting some of last year's large losses. Dairy and beef cow enterprises will show very good returns.

"Unfortunately, higher livestock prices in the coming year will put meat prices in the news as one of the factors causing high inflation rates. Consumers should be reminded that retail meat prices were actually lower during the first half of 1980. Much of the increase will simply be a recovery to earlier levels."

Hasbargen says that improved farm earnings won't come to all farmers in the next marketing year. "Both commodity and input prices, including interest, will fluctuate widely," he says. He encourages farmers to use agricultural outlook information and marketing management to develop cash flow plans and marketing strategies that will insure covering cash needs during the coming year.

More detailed information on the agricultural outlook and farm prices will appear as a special insert in the Sept. 20, 1980 edition of THE FARMER magazine. Authors of this outlook section are agricultural economists from the Agricultural Extension Services of Minnesota, North Dakota and South Dakota.

CA,IA

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September 2, 1980

DEBATE EXPECTED OVER
FARM LOAN RATES

New Congressional action on major food and agriculture programs will be needed next year since the Food and Agriculture Act of 1977 expires in 1981.

In late July, the administration made major increases on 1980 crop loan rates and the Senate also passed such a bill. These increases provided for higher price support levels and raised the grain reserve release and call prices. "They will tend to strengthen market prices," say Martin Christiansen and Norbert Dorow. The two are extension economists with the University of Minnesota and North Dakota State University, respectively.

They have written an article on agricultural policy that will appear in a special insert in THE FARMER magazine Sept. 20.

"Next year there will be strong pressures in Washington to find a formula for setting loan rates that will compensate for inflating farm production costs without jeopardizing export demand," they say. Non-land crop production costs were up an average of 24 percent over last year.

Under the 1977 act, target prices are raised to reflect increases in non-land production costs. "Increases in target prices could result in higher government costs for deficiency payments," Christiansen and Dorow say. "Strong pressures to control government expenditures will play an important role in setting target prices under new legislation."

They say the sales suspension to the Soviet Union will inspire a search for new guidelines to control similar actions in the future.

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CORN PRICES MAY
PEAK THIS FALL

Corn and other feedgrain prices may peak this fall and go down later in the marketing year, agricultural economists say.

"Even though optimism is justified for 1980-81, feedgrain use will adjust to lower supplies and prices could diminish from an early fall peak," say Art Sogn of South Dakota State University and Willis Anthony of the University of Minnesota.

The two have co-authored an article on the feedgrain outlook that will appear in a special agricultural outlook insert in the Sept. 20 issue of THE FARMER magazine.

"As things look now, the seasonal price pattern is likely to show relatively high prices early in the year--as in the short crop years of 1974-75 and 1976-77." They say that price movement later in the year will depend on these factors:

--Whether early price levels cause sharp livestock and poultry feeding adjustments.

--Whether early prices rise to the call level.

--The 1981 U.S. and world crop prospects.

Given current supply and use prospects, they say a Minneapolis terminal market price average of about \$2.90 a bushel for corn during the first nine months of the marketing year is likely. This price would about equal the national average farm price. It would keep grain reserve corn in release status and would be high enough to pull national average prices to the call level.

The 1980 crop loan is \$2.25 per bushel, the release is \$2.81, and the call price is \$3.26.

(More)

corn prices--add one

"It looks like most factors that will affect 1980-81 feedgrain prices have been established. They have some 'bullish' undertones," Sogn and Anthony say.

- A reduction of 16 percent in U.S. production
- A reduction in carryover stocks of 42 percent.
- An increase in government loan, target and call prices.
- The possibility of increased exports.
- A reduction in world feedgrain production and supplies.

However, they advise caution when evaluating how much higher feedgrain prices could go in 1980-81. "Prices have already increased substantially in anticipation of these bullish factors. In addition, there's no guarantee exports will rise or even stay at last year's level.

"Even if the embargo is lifted, chances are good the Soviet Union will not buy much more grain from us if there are other sources. We've always been considered a residual supplier to the Soviet Union and the Jan. 4 embargo reinforced that position," they add.

The 1980 corn crop was estimated by the U.S. Department of Agriculture (USDA) to 6.6 billion bushels in August. Since the mid-1960's, the USDA August forecast has averaged 5.6 percent off the final crop. Most often it has been too low, but in poor crop years it has been too high.

If the final crop is near the August forecast, total 1980-81 corn supply will be about 8.3 billion bushels--down eight percent from 1979-80. "This would be a tight supply situation--the first reduced supply year since 1974-75," Sogn and Anthony say.

Corn is the dominant feedgrain and sets price levels for other feedgrains like oats and barley.

However, the oats supply will be down 17 percent in 1980-81, "When the oats supply gets this low, the price may not be tied to the price of other feedgrains. Special uses of oats, such as milling and horse feed, will cause the price of high quality oats to move independently of other grains," the economists say.

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PRICE SUPPORTS
BIG FACTOR IN
DAIRY PRICES

Prices received by dairy farmers in the next year will continue to depend heavily on government support levels, according to University of Minnesota extension economists Martin Christiansen and Kenneth Thomas.

The past year has been highlighted by substantial increases in milk production, a modest drop in commercial sales and a resulting high level of government price support purchases.

For the marketing year ending Sept. 30, 1980, U.S. milk production at 127 billion pounds will be 3.6 percent above a year earlier. Commercial sales dropped an estimated one percent during the same period.

This led to government purchases or supports of 8.5 billion pounds of milk equivalent. Cost of the dairy support program is estimated at well over one billion dollars annually.

"Dairy farmers have responded to favorable milk prices by increasing both production per cow and cow numbers," the economists say. Grain and concentrate feeding rates are above levels of a year earlier.

Reduced culling, caused by low utility cow prices, together with a high level of herd replacements, have led to the first expansion in U.S. dairy herd numbers between January and June since 1953. Expansion during this period is contrary to the seasonal pattern.

Sales of whole milk, butter, American cheese and nonfat dry milk are lagging behind last year's levels. Possible reasons include retail dairy price rises that have been faster than general food prices, reduced consumer purchasing power and relatively low meat prices.

Dairy prices--add one

Christiansen and Thomas expect milk production to increase again for the 1980-81 marketing year. Increases in the price support level this October and next April will probably continue to keep dairy farming in a favorable position, compared to other types of farming and non-farm employment.

By law, dairy prices must be supported at a minimum of 80 percent of parity through Sept. 30, 1981. But the dairy price support program will receive "considerable attention" if milk production continues to outstrip consumption. "Some dairy groups seem willing to compromise on the 80 percent of parity minimum price if government purchases exceed certain levels," the economists say.

More detailed information on the outlook for dairy and other farm commodities will appear as a special insert in the Sept. 20 issue of THE FARMER magazine. Authors of the outlook section are agricultural economists from the Agricultural Extension Services of Minnesota, North Dakota and South Dakota.

CA, IA, 4-D

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September 2, 1980

GRAIN MARKETING TIPS OFFERED

Farmers with grain to sell are not totally 'price takers' in the marketplace.

You have some choices, and this makes marketing a management decision, according to Willis Anthony and Fred Benson, economists with the University of Minnesota's Agricultural Extension Service.

They say your main marketing choices boil down to when and how you are going to price, when you are going to deliver, and where you are going to deliver.

To do a good job of making these decisions, you need to know how much risk you want to take, all of your pricing alternatives, and your costs of holding grain for later delivery. Here are some suggestions for developing a marketing plan:

Your first step is to assess your risk-bearing ability. "Determine how much you want to avoid price risk and how much you want to take on speculative risk," Anthony advises.

Use forecast prices to calculate how much of your crop you need to sell to meet cash obligations. Then market as much as needed to cover those obligations and minimize risk. Plan deliveries so you have cash to cover obligations. Some farmers use a season-average method of pricing and delivering that share of the crop.

"On the balance available for speculation your strategy is to take on some speculative risk in return for expected higher prices," Anthony says. "To speculate intelligently, you need to know the supply-use fundamentals in the market. You also need to be aware of day-to-day developments in market attitudes, positions of traders and other technical aspects."

(more)

grain marketing--add one

The next step is to inventory your alternatives. You should know:

*All terms and details in different contracts available.

*Cash futures relationships in your area.

*Whether the futures market will give you a desirable net price.

*Your cost of holding grain in storage for later delivery.

*You also need to know typical seasonal price patterns for grain in your area. Decide whether you think this year is likely to develop into a "normal" pattern or an "early peak" pattern. Then plan sales accordingly.

Detailed information on grain marketing, price forecasts and other agricultural outlook information will appear as a special insert in the Sept. 20, 1980 edition of THE FARMER magazine. Authors of the special insert are agricultural economists from the Agricultural Extension Services in Minnesota, North and South Dakota.

"Look at price forecasts as benchmarks for fall marketing decisions," Anthony advises. If prices are at or above these levels early in the marketing year, there's little chance you'll make money speculating by holding cash grain. If you want to store, forward-price for later delivery.

"If fall prices are below the forecasts, there's a chance of making some money storing unpriced grain," he adds.

CA, IA

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Source: George D. Marx
(218) 281-6510
Editor: Sam Brungardt
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TUBE SILO PERFORMS WELL IN CROOKSTON FEED TRIALS

A new type of silo resembling a giant sausage performed well last winter in Minnesota trials in which corn silages treated with two sources of nonprotein nitrogen (NPN) were compared.

University of Minnesota dairy scientist George D. Marx, who conducted the experiment at the Northwest Experiment Station, Crookston, said he believed it was the first time a polyethylene tube silo had been tested under the harsh winter conditions of the Upper Midwest.

The horizontal silo, a type gaining popularity in Europe, consisted of a 100-foot-long cylinder of 8-mil polyethylene 8 feet in diameter. Fifty tons of each of the NPN-treated silages were packed into the tube with a special German-made machine, an Eberhardt Silopress.

The silages, which were treated with the NPNs at the time of ensiling, were fermented and stored successfully in the tube silo. Although the silo was outdoors on a concrete slab and there were some problems with freezing, Marx says the chunks could be broken up and fed because of the silages' relatively low (61 percent) moisture content.

In the experiment, corn silages harvested from the same field on the same day were treated with either feed-grade dry urea or liquid Pro-Sil, a commercial product that contains molasses, minerals, and NPN. Enough of both sources of NPN were added to increase the silages' crude protein content by 5 percent: 13.8 pounds of dry urea per ton of silage, and 50.1 pounds of Pro-Sil per ton.

(more)

add one--tube silo

The urea was mixed with the silage by topdressing each truckload as it arrived from the field, followed by additional incorporation with a front-end tractor scoop. The Pro-Sil was applied with a spray band nozzle attached to the silopress just above the machine's intake or throat.

The resulting crude protein contents were 13.85 percent for the urea-treated silage and 13.48 percent for the Pro-Sil-treated silage. Analyses of other nutrients were similar for the two silages.

Marx tested the two NPN-treated corn silages on registered Holstein replacement heifers and Holstein steers. The dairy scientist says palatabilities of both silages were similar and satisfactory. He reports animal performance--the growth rates of the heifers and weight gains of the steers--was satisfactory and adequate with both kinds of NPN-treated silages.

In a 72-day test, 19 Holstein heifers were fed the urea-treated silage and 19 were fed the Pro-Sil-treated silage. The group fed the corn silage containing Pro-Sil gained an average of 1.83 pounds per animal per day. The heifers fed the urea-treated silage had an average daily gain of 1.71 pounds. There was no statistical difference between the gains of the two groups.

The test with the steers was carried out over 90 days. Two groups, each comprised of 14 steers, received either type of NPN-treated silage ad libitum plus 8.0 pounds of coarsely ground barley per head daily. Those fed the corn silage with urea gained an average of 2.72 pounds per day, while those fed the silage with Pro-Sil gained an average of 2.65 pounds per day. Marx reports that there were no statistically significant differences in observed traits between the treatments; both silages resulted in suitable finish and carcass traits.

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HARVEST BOWL
IS NOV. 14-15

Harvest Bowl 1980 is scheduled for Friday and Saturday, Nov. 14-15, on the University of Minnesota's St. Paul Campus.

Outstanding farm families from 40 or more Minnesota counties will be recognized at the Nov. 14 banquet. Mrs. Pat Leimbach, an Ohio farm wife and a syndicated columnist, will be the keynote speaker at the banquet.

The Saturday forenoon program will feature Minnesota's food industry. There will be a talk by the Minnesota Commissioner of Agriculture and a slide presentation depicting Minnesota's efforts in food marketing.

A panel of Minnesota food processors will stimulate an open-audience discussion. Following band music and cheerleading, Harvest Bowl participants will be treated to a "taste table" noon luncheon including 90 items of Minnesota food products.

The Minnesota-Michigan State football game on Saturday afternoon will conclude Harvest Bowl activities.

The purpose of Harvest Bowl is to recognize agriculture and outstanding farm families in Minnesota and to provide a forum for the discussion of concerns to agriculture.

For more information contact the Office of Special Programs, University of Minnesota, St. Paul, Minn., 55108. Tel. (612) 373-0725.

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Department of Information
and Agricultural Journalism
Agricultural Extension Service
University of Minnesota
St. Paul, Minnesota 55108
Tel. (612) 373-0710
September 2, 1980

DAIRY GOAT CONFERENCE
SET FOR NOV. 8

Selecting economical feeds, balanced rations and producing quality dairy goat products are scheduled topics for the third annual Dairy Goat Conference on Nov. 8 at the St. Paul Campus of the University of Minnesota.

Dr. Joan Bowen, a veterinarian from Wellington, Colo., will speak on "Reproductive Management of the Dairy Goat Herd." She will also give suggestions on getting the most value from your veterinarian. Dr. Bowen has maintained a dairy goat herd for the past 10 years.

Additional information will be provided on managing a herd health program, judging and classifying goats and determining forage quality. A symposium on feed is also planned.

The conference is designed for dairy goat farmers from Minnesota and surrounding states plus extension agents, veterinarians, Vo-Ag instructors, and others interested in dairy goat management. Specialists in the dairy goat field will be present to answer audience questions.

The University of Minnesota Agricultural Extension Service and the Office of Special Programs in cooperation with the Minnesota Dairy Goat Association are sponsoring the conference.

Registration is \$12 per person and \$6 for each additional family member. The registration fee includes the proceedings and refreshments. For further information about the conference, contact the Office of Special Programs at (612) 373-0725 or write:

CA, IA

Office of Special Programs
University of Minnesota
405 Coffey Hall
1420 Eckles Avenue
St. Paul, MN 55108

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September 2, 1980

CONSIDER INVESTMENT DRESSING WHEN BUYING CLOTHES

When buying clothing, more than just the cost of the garment should affect your decision. Upkeep and wear life are just as important, according to Sherri Johnson, extension textiles and clothing specialist at the University of Minnesota.

Speaking to 4-H Fashion Revue participants at the Minnesota State Fair, Mrs. Johnson stressed careful wardrobe building. As winners at their local county fairs, the Fashion Revue participants participate in a day-long session of modeling instruction and consumer clothing buying tips.

Although most of the nearly 200 Fashion Revue participants during the length of the Fair bring outfits that they have sewed, Mrs. Johnson spoke to them about buying clothes.

"With more women working outside the home, the day is gone when we make everything we wear," Mrs. Johnson said. "Even for experienced home sewers, building and planning a wardrobe carefully is a big consideration because all clothes -- both purchased and constructed -- cost more today."

One way to be an alert consumer is to practice "investment dressing." Mrs. Johnson said this takes account of the cost per wearing for a garment. For example, a jacket priced at \$35 that you will wear about three times a week for four months out of a year will cost 37 cents a wearing.

Similarly, a pair of \$39 shoes that you expect to wear three times a week for a year would cost about 25 cents per wear.

add one--investment dressing

Mrs. Johnson offers these investment dressing hints:

- * Build on the good clothes you already own.
- * Invest clothing dollars in clothes most frequently worn. The more often you wear a garment, the better the construction and fabric should be.
- * Buy separates to allow more clothing combinations.
- * Buy items with multi-purpose use.
- * Consider upkeep. The time and money needed to clean, press or otherwise care for clothing can be reduced through wise buying. Dry cleaning or special care cost can be more expensive over the life of the garment than the purchase price.
- * Select seasonless clothes as much as possible.
- * Avoid fad items that will get limited use.
- * Avoid garments that require special undergarments or accessories.

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DO YOU USE CLOTHING COLORS AS ALLIES OR ENEMIES?

Colors can make or break an outfit, and knowing how to select colors for a person's wardrobe can mean the difference between wise and wasteful shopping.

The key to a well coordinated, flattering wardrobe lies in your own hair, skin and eye coloring, according to Patricia Tarara, color consultant with Color 1 Associates in St. Paul. She spoke to participants in the 4-H Fashion Revue at the Minnesota State Fair and urged them to take their body colors into account when buying or sewing garments.

"The idea is to use color well, not necessarily to spend a lot of money," Tarara said. She works with clients to select colors and shades that flatter and enhance one's natural coloring.

Nearly all persons fall into one of four coloring groups, she told the 4-H'ers. Two have vivid color while two are more toned down.

Persons with contrast coloring often have dark hair and eyes and contrasting skin tones. Bright colors and bold patterns most enhance this coloring group.

The coloring group she calls "light brights" are often blondes with light or tanned skin. Like persons with contrast coloring, light brights do well in bright colors, but smaller patterns and more whites or pastels in the patterns are particularly flattering, she adds.

Persons with soft coloring often have light brown or ash blonde hair with brownish tones to their skin. This delicate combination can be overpowered by vivid colors, but neutrals and toned down colors are becoming. So are small, subtle prints.

add one--colors allies or enemies..

"Brown on brown" is the way Tarara describes the fourth coloring group. These persons have brown hair and brown skin tones, often with red or bronze hair highlights that are enhanced by earth tones and muted colors.

Because hair color is so central to a person's appearance, Tarara suggested reproducing that color at key places in an outfit. Belts, jewelry, hosiery and handbags can all suggest hair color or highlights effectively.

Be cautious of pure white used near the face. This can detract from your teeth and smile, she said. Few of us have perfectly white teeth so ivory or slightly yellowed or grayed shades of white drain less color from the face.

With age, our coloring tends to fade slightly but remains surprisingly stable. "The basic tones remain with us for a lifetime," Tarara said. "Most colors that are flattering to us as teenagers will be equally becoming during middle age and beyond."

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Department of Information
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Agricultural Extension Service
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St. Paul, Minnesota 55108
September 22, 1980

Source: Clif Halsey
(612) 373-1060
Editor: Jack Sperbeck
(612) 373-0715

PLAN CONSERVATION TILLAGE NOW

"Farmers should start planning their conservation tillage systems now," says Clif Halsey, conservationist with the University of Minnesota's Agricultural Extension Service.

Conservation tillage is more than abandoning the plow for discs and chisel plows, Halsey says. It means leaving enough crop residue on the surface to control wind and water erosion.

Thirty percent or more of the ground should still be covered after next year's crop is planted. A 30 percent ground cover will reduce water erosion to half of what there'd be on bare ground.

Thirty percent cover will control wind erosion adequately on loam and clay loam soils. Forty percent is needed on sandy soils for good wind erosion control.

Conservation tillage means doing as little tillage as possible to prepare a good seedbed and to control weeds, diseases, and insects. This means changes in tillage, planting, and pest control systems.

Use herbicides that substitute for moldboard plowing to control grassy weeds and biennial and perennial broadleaf weeds. Herbicide application methods and rates must work with surface residues which protect the soil from sprays as well as from rain.

add one--plan conservation

Give special attention to maintaining proper planting depths and seed-soil contact in mulches, Halsey advises. He advises considering slot planting and till-planting equipment.

Colder soil temperatures under residue at planting time may be a problem. Partial incorporation of residues or ridge planting may be a solution.

"Conservation tillage is more than not plowing," Halsey emphasizes. It is a tillage, planting, and pest control system designed to save fuel and time, conserve soil and produce satisfactory yields. Different tillage methods, precise planting, and specifically designed crop pest control methods are involved.

Publications on conservation tillage methods, residue management and weed control with reduced tillage are available at county extension and soil conservation offices.

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TRANSPORTATION BRIEFS . . .

Beware Railroad Crossings --- Cars and trains don't mix. At least that's the conclusion of the Department of Transportation's Federal Highway Administration. That agency reports that 12,000 accidents take place each year at railroad-highway crossings.

In an effort to improve traffic control at these intersections, the Federal Highway Administration is seeking public comment on the types of warning lights and/or automatic gates that drivers consider most effective. These suggestions will help the agency select the type of traffic control devices that will be specified for all crossings in the future.

If you wish to comment, write to the Federal Highway Administration, Docket No. 80-11, Room 4205, Washington, D.C. 20590.

* * *

Hot Seat Alert --- This summer's record heat brought an unusual safety hazard -- burned backsides on young children plunked into overheated vinyl car seats. The Consumer Product Safety Commission reminds consumers that even when the outside temperature is only in the 70s, black vinyl in a closed car can heat to 190° F. or higher. Here are some tips for parents:

* Park in the shade whenever possible.

* Test the temperature of the seat or restraint system before placing your child there. If the seat is hot, protect your child by putting a towel or blanket on the seat.

* If you must park in direct sunlight, cover the seat or child restraint system with a light colored blanket or towel.

* * *

Brake Light Visibility --- How conspicuous are your brake lights? Recent research by the Department of Transportation indicates that vehicles with a single high-mounted brake light on the vehicle's center line just below the back window had about 50 percent fewer rear-end accidents than vehicles without the added light.

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September 22, 1980

Directors and Agents: This was based on the survey we all did last May. If you haven't done a local story based on your county's activities, you may wish to do so. Some of the information in this story could be worked into your local angle

A CLASSROOM WITH 600,000 STUDENTS

A classroom seating 600,000 students is a bit hard to imagine. The 600,000 students we're talking about learn in "movable" classrooms like group meetings, farm workshops, and home visits. They also learn from newsletters and the news media.

The 600,000 figure is the number of Minnesotans who were exposed to Agricultural Extension Service programs of the University of Minnesota one day last spring. That's one of every seven individuals in the state.

Agricultural Extension Service Director Norman A. Brown asked more than 500 extension educators around the state and on the University of Minnesota campus to keep a detailed record of their activities for a day.

The day selected was May 1, 1980. Here are some other highlights from that day:

--Extension educators conducted 122 meetings. Topics ranged from horticulture to how to cope with inflation, and more than 6,500 individuals took home useful knowledge from the University.

--Extension agents and farmers exchanged knowledge in visits to more than 300 farms, counseled homemakers in 327 households and made more than 500 personal visits in response to individual problems.

--More than 4,600 individual letters and 40,000 copies of newsletters from extension educators were mailed.

--There were 3,600 questions asked by telephone. About 1,300 individuals came to the county extension office in person to obtain information.

add one--a classroom with 600,000 students

--Over 30,000 individuals picked up or were mailed extension publications they selected.

--There were 37 stories printed about extension activities in 27 weekly newspapers. In addition, 81 county agent columns appeared in 68 newspapers.

--There were 900 minutes of radio time--an average of 10 minutes each on 90 stations. These programs reached an estimated 250,000 individuals.

Extension began in Minnesota in 1909. Its goal is still to provide a steady flow of information from the University to help Minnesotans live more productive, interesting, rewarding lives.

Contact your county extension office for more information. Most extension offices are located in county courthouses.

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SWEATER KNITS:
EASY SEWING AND
A GOOD WARDROBE UPDATE

Does your fall and winter wardrobe need a pick-me-up? Sweater knits abound this year. With a few updated sewing techniques, you can add some attractive garments to your closet, suggests Sherri Johnson, extension textiles and clothing specialist at the University of Minnesota.

If you decide to give sweater knits a try, start with a pattern with simple lines recommended for knits, Mrs. Johnson advises. Buy and cut the fabric by the "with nap" layout to avoid light and dark sections.

Before cutting, preshrink the fabric to remove any temporary finishes and guard against future shrinkage. During cutting, do not let extra fabric hang off the cutting surface or the weight can cause the fabric to pull or stretch.

Select your notions with the sewing project in mind, she adds. Narrow twill tape will prevent stretching at shoulder and other seamlines that may need stability. Zippers should be light, flexible ones with knitted tapes and synthetic coils.

Sharp shears, never pinking shears, are a must for cutting. Ball point needles in size 11 or 14 (80-90) prevent fabric damage, Mrs. Johnson adds.

Before stitching, make a test seam for the best machine stitch and stitch length, pressure and tension. Loopy fabrics can be kept from catching if you enclose the presser foot toes with tape before sewing the garment.

To prevent curling of cut edges, place long pins close together and at right angles to the seam. Spraying the edges with starch may also help.

Unless seam allowances are cut to $\frac{1}{4}$ inch, begin with a wide seam allowance and trim to $\frac{1}{4}$ inch after stitching. While stitching, stretch the fabric slightly if you are using a straight stitch machine. Zigzag or automatic stretch stitches also work well on sweater knits, according to Mrs. Johnson. Topstitching will flatten seams and edges that tend to roll.

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Tel. (612) 373-0710
September 22, 1980

Note to Home Economists:
The week of Oct. 5-11 is National
Consumer Education Week. Use
some of this material to spotlight
Extension's service to consumers
or, better yet, use your columns,
newsletters and radio programs
that week to remind local residents
of the services and programs that
your office constantly provides.

CONSUMER ANSWERING
SERVICE EDUCATES,
CALMS CRISES

(612) 373-0912 is probably one of the busiest phone lines in the Twin Cities, and it certainly serves a crisis control function in the homes of many callers.

It is the Consumer Answering Service of the Minnesota Agricultural Extension Service. In a typical year, more than 20,000 consumers talk with one of the two home economists who staff the answering service. They provide information and help with decision making in a wide range of home economics-related subjects.

Patricia Kramm and Kathy Mangum, the home economists at the answering service, agree that the problems the callers need help with are often crises in their homes. They record every call by subject matter and have found that half the calls relate to nutrition and food safety, preparation and preserving. For this reason, the summer canning and freezing season is busiest and a home economics student from the University joins Kramm and Mangum in fielding questions.

Inquiries about clothing -- selection, care and alteration -- rank next. Another popular category is questions about household equipment and furnishings.

"We are educators," Mangum stresses. "We try to help the consumer understand the process or technique. If they need to make a decision, we can lead them through the process and provide information, but it's always their decision."

The two home economists are well informed on many topics. In addition, their reference books, files and folders fill many shelves in McNeal Hall on the St. Paul campus of the University that serves as their headquarters. Each year they send out more than 7,000 extension publications to callers who need more information than Kramm and Mangum can give over the telephone.

Although most of the calls are from Twin Cities residents, the service gets inquiries from all over Minnesota and even from other states. Kramm says, "Many consumers tell us they don't know what they'd do if they didn't have us to call. We can't answer everything, of course, but we rarely get into a situation where we can't give a person some kind of help."

* * *

Extension Reaches Consumers -- Extension is actively involved in consumer education, extending knowledge from the University of Minnesota to every person in the state who asks for it.

(more)

Extension Reaches Consumers--add one

A recent survey of extension activities on a typical day showed that one of every seven individuals in the state had direct contact with extension. More than 600,000 of the state's 4,019,497 population participated in at least one extension program.

On that survey day, May 1, 1980, extension educators and volunteer leaders conducted a total of some 300 meetings, reaching more than 10,000 individuals with useful information on topics ranging from horticulture to how to cope with inflation.

* * *

One-to-One and the Mass Approach -- Extension tailors the way it disseminates information according to the needs of local residents. On a survey day this spring when extension activities were closely documented, extension agents and farmers exchanged knowledge in visits to more than 300 farms. In addition, agents counseled homemakers in more than 300 households and answered questions from nearly 4,000 telephone callers and 1,300 persons who dropped by their local county extension offices to obtain information.

But not all state residents benefit from extension through personal contact. On that day, county agents and University campus-based specialists mailed out more than 4,600 letters and 40,000 copies of informative newsletters on a variety of topics. In addition, some 30,000 individuals picked up or were mailed extension publications. Countless thousands of other Minnesotans gain information from extension through agents' weekly and daily newspaper columns and radio and television programs.

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WEIGHT LOSS MAY NOT
SOLVE CLOTHING FITTING WOES

It's every dieter's dream -- reaching a goal weight and being able to slip into a perfect size 10 right off the rack.

Sadly, it doesn't always happen that way. Sherri Johnson, extension textiles and clothing specialist at the University of Minnesota, says research done at the University shows that problem figures before weight loss may still be problems afterwards.

"Weight loss is sometimes thought of as a cure-all for making clothes fit better," Mrs. Johnson said. "But, in reality, any effort to alter one's body build by losing weight will depend on the placement of major fat deposits. Losses tend to be proportional. For example, a person who is heavy through the hips and needs larger size pants than shirts might still need that even after losing weight."

Research done by Carol Salusso-Deonier, Marilyn R. DeLong and Frank B. Martin at Minnesota looked at 85 women enrolled in weight loss salons who experienced losses ranging from four to 20 pounds. Although ready-to-wear standards established by the U.S. Department of Commerce call for size changes with each weight change of 10 to 15 pounds, some losses of as little as four pounds caused size changes. This was particularly true if most of the lost weight was from the abdomen, hips or bust, according to the research findings.

The researchers categorized the women according to where they carried most of their body fat. Women who tended to carry more weight in the hips and thighs, also tended to lose most there. However, these women often had to lose more weight before needing a size change than women whose fat was distributed more evenly or was largely in the upper torso.

The mean weight loss for the dieters was 8.13 pounds and more than half changed an entire size. Most did not fit standard sizing dimensions either before or after losing weight.

"Weight loss certainly doesn't guarantee improvement in the fit of ready-to-wear, as this study shows," Mrs. Johnson added. "I think it points out that the ready-to-wear industry could, and probably should, offer more sizing options to allow for differences in women's figures and differences in how they carry or lose fat."

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1980 STRUCTURES AND ENVIRONMENT HANDBOOK AVAILABLE

Students, teachers and practicing engineers will find a handy reference to the field of farm structures in the new, 1980 edition of Midwest Plan Service's Structures and Environment Handbook, MWPS-1.

The handbook is the tenth revision of over 490 pages of valuable information on planning farmstead systems and facilities. The wire spiral bound handbook contains major sections on design, materials and material selection, ventilation, insulation, and water supplies. Other areas covered are waste management--collection, storage and disposal--and planning for farmsteads, livestock facilities, and feed centers.

New sections in this 1980 revision cover the latest information on low temperature grain drying, managing dry stored grain, and solar energy and its on-the-farm uses. Other new material discusses tilt-up concrete construction, outdoor liquid manure storages, girts and purlins, and private water supplies.

The 1980 Structures and Environment Handbook, MWPS-1, is available for \$10.00 from Extension Agricultural Engineering at 201 Agricultural Engineering Building, University of Minnesota, St. Paul, MN 55108.

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HANDBOOK DETAILS GRAIN-FEED FACILITY PLANNING

If you are building a new grain handling facility or adding to an existing one, a handbook to help your planning is available from the Midwest Plan Service.

The 72-page handbook, Planning Grain-Feed Handling for Livestock and Cash-Grain Farms, MWPS-13, shows how to set up systems for unloading, drying, elevating, storing, and processing feed and grain. It also covers guidelines for selecting storage and drying methods and tells how to plan ahead to leave space for future facilities, processes and handling methods.

Over 150 illustrations detail dryers, drying systems and layouts, mechanization of double cribs, feed processing layouts, dump hoppers and pits, vertical elevators, conveyors, shelled and ear corn storage, and feed wagons. The handbook also includes tables for calculating densities and storage required for various grains, capacity of common storage structures, and harvest rates for pickers and some combines.

Most of the equipment shown in the handbook is available commercially. If equipment is home-built, complete dimensions and working drawings are given.

Planning Grain-Feed Handling for Livestock and Cash-Grain Farms, MWPS-13, is available from Extension Agricultural Engineering at 201 Agricultural Engineering, University of Minnesota, St. Paul, MN 55108. Cost is \$2.50 plus 10¢ tax.

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NEW CONFINED BEEF PLAN AVAILABLE

If you are planning to begin or expand a confinement beef feeding operation, the Midwest Plan Service has a new plan that may interest you.

The plan, MWPS-72443, is for a complete confinement barn, 65 feet by 120 feet, for 420 feeder cattle in six pens. An attached 24-foot by 65-foot feed center is also included in the plan.

The post frame building has a totally slotted floor for mechanized manure handling. The building also has an open front for natural, energy-saving ventilation. Sliding ventilation panels along the back (north or west) wall allow adjustment for wind and temperature changes. For cold climates, and alternate back wall is detailed.

The confinement building features mechanized feeding from adjacent tower silos through the central feed bunk. The drive-through feed center between the silos and the building gives you area under roof for mixing and proportioning ingredients, the ability to draw from silos into a feed wagon for transporting ingredients to other farm feed operations, and feed wagon and truck storage.

Other major features of MWPS-72443 include a corral with perimeter fencing for access to each pen; an office area central to cattle, feed center and corral; an observation walkway over the feed bunk for daily cattle checks; and one freeze-proof waterer per pen with insulated underground lines.

The 65-foot wide confined beef building plan, MWPS-72443, is available from Extension Agricultural Engineering at 201 Agricultural Engineering Building, University of Minnesota, St. Paul, MN 55108. The 8-page plan costs \$2.00 plus 8¢ tax.

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FAMILY HOUSING HANDBOOK AIDS HOME SELECTION, PLANNING

If you intend to build a new house, remodel an existing home or buy or rent a house, apartment or manufactured home, you may wish to consult the Family Housing Handbook, MWPS-16, available from the Midwest Plan Service.

The handbook was developed by a team of housing specialists to explain and illustrate the principles of good housing for families, married couples of any age, and single people who arrange for their own living quarters. Elderly or handicapped people require extra convenience and safety features in their homes, and the handbook also offers suggestions for meeting those extra needs.

The 74-page handbook includes a planning section, which guides your family through various steps in deciding their housing choice. A section on evaluating floor plans shows good floor plan design emphasizing efficient and convenient traffic patterns. Advice on how to tell a good plan from a bad one is also included.

The Family Housing Handbook, MWPS-16, is available from Extension Agricultural Engineering at 201 Agricultural Engineering Building, University of Minnesota, St. Paul, MN 55108. Cost is \$2.50 plus 10¢ tax.

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HELPS FOR HOME ECONOMISTS

RED ALERT: WINTER'S APPROACHING

When rakes and leaf bags appear, can winter be far behind? Edna Jordahl, extension family resource management specialist, offers these short items on winter safety and preparedness for use in your columns, newsletters and radio programs. Adapt them to fit your needs.

Deedee Nagy
Extension Information
Specialist

In this issue:

Warm-up Warnings
Winter Food Follies
Staying Toasty
Mother Knows Best

Be a Safe and Savvy Dresser
Buntings: Not Just for Babies
Winter Invites the Silent Killer

Warm-up Warnings

Cold weather reduces muscle elasticity, and when this happens, we tend to ache, feel stiff and suffer more injuries. One way to cope with winter cold is to exercise, stretching contracted muscles and stimulating circulation. An aerobic exercise program helps improve circulation and so does walking, jogging, jumping rope or dancing.

Be careful of extreme temperature changes, however. These can be dangerous. Before going out to shovel snow, do a few warm-up exercises to get the blood flowing to your muscles and to dilate the arteries around your heart. On cold, windy days remember to watch out for frostbite. Symptoms of frostbite include pain, then numbness and, finally, a change in skin color from normal to white. To treat frostbite, rewarm the area immediately in warm water. If the skin color returns to normal, the frostbite sufferer will be all right. If it doesn't, get medical help immediately.

* * *

Winter Food Follies

Although safety with canned foods is often considered a "summer problem", winter poses some dangers, too. During cold weather, canned foods stored in a garage or other unheated area could freeze. If the seal of the container is broken during freezing, this could pose a hazard.

If you have canned foods that have frozen, thaw them at room temperature and observe them for any sign that the seals are broken. If the lid lifts easily on home-canned foods, or if there is any leakage from the seams of commercially canned foods, refrigerate the food or use it right away. If the seals are good, the food is safe, although you may notice some texture changes. Some foods may be softer than they would be otherwise.

* * *

Staying Toasty

When you're dressing for the cold, think about how long you'll be outdoors. If you're going to be out for several hours, add layers of clothing to the torso. But if you will be out for only a short time, concentrate on the extremities.

The reason? Cold serves as a warning device that it's time to get inside. Those who are outdoors for a long time with a lot of insulation on their hands and feet can disrupt this warning signal. Their body temperatures may drop to a dangerously low level without them being aware of it.

When planning clothing for outdoor wear, remember that older people tend to get colder more quickly than young people. Slender people need more clothing than heavier people. And women often need thicker gloves and socks than men because they tend to have colder skin surfaces.

* * *

Mother Knows Best

Your mother was right. You should wear a hat, hood or scarf when it's cold outside. About 90 percent of body heat is lost at the head. You can protect your face and neck from possible frostbite with a muffler. And pull up a scarf over your mouth and nose to help warm frigid air before it gets to your lungs.

A few more tips: Mittens are usually warmer than gloves and shoes with crepe or rubber soles will keep your feet warmest. The thickness of a garment is a better clue to its warmth than its weight.

For maximum warmth from a winter wardrobe, keep it warm and dry. Wear loose clothing in layers to trap warm air against the body. Natural fibers such as wool, cotton and down are better insulators and absorb moisture better than synthetics.

* * *

Be a Safe and Savvy Dresser

To some, the cold is uncomfortable, but to others it's downright dangerous. Infants, the sick, the aged and those who love the out-of-doors are particularly vulnerable.

The body has one basic goal -- to maintain a constant internal temperature of 98.6 degrees and if that can't be done, hypothermia can result whether the person is indoors or out.

Clothing is the first line of defense against hypothermia. It is especially important for the elderly to dress more warmly whenever the temperature dips below 60 to 65 degrees whether they feel chilled or not. Outdoor enthusiasts can run into trouble when they shed clothes because they're hot from heavy exercise. Unless they get those layers back on when they stop generating so much body heat, they begin to chill rapidly. Those who sweat in heavy clothes can also get chilled from the dampness.

Remember, clothing shouldn't be too tight or too loose. Too tight clothing restricts circulation. Dress in layers. Air trapped between layers of clothing is the real insulator. The more layers, the more air is trapped and the warmer you'll be. Add extra layers of clothing on top so that you can shed them easily if you become overheated. Extra underwear, on the other hand, is pretty hard to remove easily.

* * *

Buntings: Not Just for Babies

You've seen them advertised -- snug sacks, hibernators, body wraps, "chill chasers." All are names for garments like baby buntings, but made for adults.

Most are made of two layers of fabric with a batting between. Some can be converted into an indoor sleeping bag, an extra blanket or a comforter.

If you are considering buying one, remember that quilted buntings are warmest although those made of blanket fabrics will keep you warm enough for most occasions. For maximum warmth, look for one that can be closed at the bottom with snaps or a zipper. These are also handiest for people who want to walk around in their buntings.

Although buntings are sized, no standards exist yet so the terms may mean little. Look for one that is at least 18 inches longer than your total height to allow for sitting and movement ease. Buntings could pose a hazard for elderly persons who could stumble if they have to move quickly while in the bunting. They are probably a poor idea for smokers, too. Most of the materials commonly used are flammable.

* * *

Winter Invites the Silent Killer

Every winter, hundreds of Americans die from the "silent killer"-- carbon monoxide. And it isn't only closed cars that present danger.

Every time gas, charcoal, propane or wood is burned, carbon monoxide is formed. Properly adjusted furnaces and well tuned cars produce only minimal amounts of carbon monoxide. Many poisonings occur when a chimney flue or exhaust pipe leaks or becomes clogged.

It's never a good idea to sit in a parked car with the motor running. And never drive a station wagon with the tailgate window down. Exhaust gases can be sucked into the passenger compartment. Because carbon monoxide is colorless and odorless, it can go undetected until it is too late.

Air containing just one percent carbon monoxide can cause death in just five minutes. Often the victim isn't aware of any danger. He or she merely becomes drowsy and falls asleep -- permanently.

Early symptoms of carbon monoxide poisoning can also include nausea, vomiting, dimmed vision, headaches, dizziness, depressed heart action and slowed breathing.

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University of Minnesota
St. Paul, Minnesota 55108
Tel. (612) 373-0710
September 29, 1980

U. OF M. FOOD SCIENTISTS REPORT BETTER WAY
TO MEASURE NUTRIENT LOSS DURING DISTRIBUTION

Two University of Minnesota food scientists have discovered a way for manufacturers to determine environmental effects on loss of food quality and nutrients during distribution.

They said their finding will benefit consumers because it can be used to establish more accurate "sell-by" or "best -if-used-by" dates on packages.

"Present regulations allow for labeling of nutrients based on the level as processed and do not account for losses in distribution, thus the consumer may not be getting exactly what he or she paid for," said Theodore P. Labuza and Joseph J. Warthesen of the University of Minnesota's Department of Food Science and Nutrition.

The researchers, who received National Science Foundation funding, used dry egg noodles as the test food. Most food manufacturers consider such dehydrated products to have an indefinite shelf life. However, since products can be subjected to high temperatures and humidities during distribution, the quality and nutritional value can be affected, the scientists said.

"The common way of testing for quality loss has been to subject the product in a package to high temperatures and humidities and then, based on how long it took to become unacceptable, predict the shelf life under ordinary conditions." Labuza said.

"Our work has shown there are exact scientific principles that can be used to predict the shelf life of processed foods. We've also shown that the foods can be tested at constant high temperature and humidity. From this, accurate prediction

add one--food scientists

of quality and nutrient loss can be made for any fluctuating condition," he added.

In their study of egg noodles, the researchers found that riboflavin (vitamin B2) is stable to temperature and humidity but if noodles are exposed to light, 50 percent of the riboflavin can be lost in two days. This suggests that light-tight packaging is best for such foods.

Thiamine (vitamin B1) is not subject to light losses, but shows about a 50 percent loss in one year if the product is held at 95 degrees F and 65 percent humidity. "Fortunately," Dr. Labuza said, "most pasta is consumed before one year, and storage conditions during distribution are usually cooler and drier. Protein quality loss was similar to that of thiamine."

Based on their findings, the food scientists advise consumers not to keep pasta for long periods and to store the product in the dark in a cool, dry place. These recommendations apply to all dried foods including cereals, dried vegetables, soup mixes and cracker-type snack foods.

Labuza and Warthesen hope their data will allow accurate predictions of quality loss. This information could lead to "best-if-used-by" dates on labels based on no more than 10 to 20 percent nutrient loss.

"Since pasta consumption is increasing, pasta can be a major source of B-vitamins. These results will help insure that consumers get their requirements," Labuza said. "Open dating, if accurately done, could insure better quality food supplies if dating is used to properly rotate stock."

Labuza says, however, that the environment is so variable that even this research doesn't allow completely accurate "use-by" label dating except for a few special products such as pasteurized milk.

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CA, HecI, HecII

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Source: Dr. Harold Kurtz
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EDEMA DISEASE IN SWINE STILL A MYSTERY

Edema disease may qualify as the "mystery" disease of swine. If you've never had it, you may want to knock on wood--fast.

There's no guarantee that a well managed, sanitary operation will remain free of the disease. Researchers and veterinarians can't explain why some farms are plagued with edema disease, while others never get it.

"We rarely see the disease in a pig that's doing poorly," says Dr. Harold Kurtz, veterinary researcher with the University of Minnesota Agricultural Experiment Station. "Most of the outbreaks occur in rapidly gaining pigs that have experienced a change in feeding habits within the past week."

Edema disease or "gut edema" got its name when researchers who first observed the disease in the 1930's found excess fluid in the stomach walls and intestine or under the eyelids.

It's most common in pigs that have been weaned anywhere from three to 14 days, but can occur in nursing pigs as well as those in the finishing unit.

The first sign is one or more dead pigs that had no history of illness. Other pigs usually show nervous symptoms like staggering, head tilting and falling. Mortality rate of clinically affected pigs is about 85 percent. Overall group death rate is usually about 1-5 percent, but may go to 20 percent or higher.

Those that don't die show improvement after two days. Animals that survive may become unthrifty, have a rough hair coat and diarrhea problems.

An abrupt ration change may help prevent additional cases, Kurtz says. Changing the diet will alter growth conditions for bacteria in the intestine and may allow other bacteria types to multiply and replace strains of E.coli that cause edema disease.

add one--edema disease

"The least expensive and probably the most effective treatment is starvation. If you completely withhold feed for 48 hours, the intestinal environment will be drastically altered," Kurtz says.

You may still lose more pigs that already had the toxin circulating, but pigs that don't have lethal amounts of toxin circulating in the intestine will benefit from treatment since the E. coli will not multiply.

Antibiotic supplements in the ration may help prevent additional cases, but can be expensive. Antibiotics must be effective against the specific E. coli involved.

"Rely on your veterinarian to diagnose the problem and develop a treatment program," Kurtz emphasizes. Many diseases of young pigs have symptoms similar to edema disease.

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HOG BRIEFS....

Troubleshooting Ventilation Systems

Larry Jacobson, extension agricultural engineer at the University of Minnesota, offers this check list for troubleshooting ventilation problems in hog barns:

--At least one fan should run continuously to keep air pure.

--Inlets should be designed properly. If the door slams hard, there's not enough inlet area for the existing fan capacity. There should be only a slight pull on an outside door.

--Check for large openings if cold air drafts are a problem. If the slot inlet is at the summer setting, or flaps on commercial inlets are corroded, you'll have draft problems.

--If there's a "dead" spot in the barn, check air inlets in the area to see if they're plugged or restricted. Open existing inlets or make new inlets to provide fresh air in the area.

"A fan that circulates air can eliminate the dead spot but it won't correct the poor inlet design," Jacobson says.

--Dirty fan blades seldom create ventilation problems. However, dirty shutters and louvers can reduce airflow significantly.

"Correcting ventilation design 'goofs' can get complicated," Jacobson says. It requires knowledge of air and water relationships and fluid flow. "These problems probably should be handled by an experienced specialist" Jacobson says. "The practical solution must consider the basic problem and not aggravate existing poor conditions."

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-more-

Add one--hog briefs....

Ventilation Systems

It's a lot easier to design a good ventilation system before a hog facility is built than it is to correct an existing problem.

"Management of a ventilation system should be easy to comprehend and implement," says Larry Jacobson, extension agricultural engineer at the University of Minnesota.

If the ventilation system is cobbled together with so-called "best" features of several systems, management becomes difficult and troublesome. The problem requires engineering expertise, Jacobson says. It's better to have a good design initially than to redesign an existing system with improperly matched components, he adds.

#

Sow Housing

Design the hog gestation building for 2.0 litters per female per year, not the 2.4 that's commonly advertised.

That's the advice of University of Minnesota swine veterinarian Dr. Al Leman. "Only the best herds reach 2.0 litters per female per year," Leman says.

He also suggests designing the building for 30 percent replacement gilts yearly, and for one boar per 20 females in the entire breeding herd.

Avoid designing a building based on successful use of artificial insemination. "Many hog producers try AI, but few continue with it," Leman says.

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Note to home economists: As you know, next week is National Consumer Education Week. These items may be useful to you in promoting that, or they can be adapted for use at any time in your columns, newsletters or radio programs. They are provided by Edna Jordahl, extension family resource management specialist, from a variety of sources.

Consumer Briefs . . .

Consumers and Credit Cards --- Are shoppers who own a credit card more likely to make a purchase than those who do not? Research reported in a recent Journal of Consumer Research showed that:

* shoppers who owned only a bank card were as likely to have made a purchase as shoppers who owned only a store-issued credit card;

* shoppers who owned either type of credit card were more likely to buy than shoppers who had neither type of card;

* shoppers with a credit card of some type made larger dollar value purchases than shoppers with no card;

* Shoppers with both a bank card and a store-issued card made larger purchases than shoppers who owned only one of the cards.

Although the study looked only at bank cards and store-issued cards, the researcher concluded shoppers are about as likely to make a purchase with either type of card, but that the more credit alternatives the consumer possesses, the higher his or her level of buying is likely to be.

* * *

Legislative Update -- Laws in the consumer sphere have changed recently. Did you know:

* the hourly minimum wage rose from \$2.90 to \$3.10 at the beginning of this year?

* the Social Security tax percentage remains the same (6.13 percent) but the tax is now being levied on a larger wage base? The wage base upon which the tax is imposed jumped from \$22,900 to \$25,900 effective this year. For persons earning \$25,900 or more, this means an additional \$184 in Social Security payments this year.

* bankruptcy laws now allow debtors to retain a larger portion of their assets -- up to \$7,500 equity in a home and \$1,200 equity in an auto provided there are no liens against the property? Unaffected by the new law is the debtor's obligation to pay child support, alimony, back taxes and, in some cases, government-backed student loans.

* * *

Add one--consumer briefs

Grab Bag of Consumer Information --

* Do you think you're being hit hard at the gasoline pump? In Bulgaria, gasoline is \$4.32 a gallon; Belgium, \$3.11 a gallon; Italy \$3.02 a gallon; Britain, \$2.34; and Japan, \$2.20. But then there are Mexico at 65 cents and Saudi Arabia at 29 cents.

* A survey of 430 consumers conducted by Better Homes and Gardens showed that 26.5 percent of consumers who have tried generic or no-name products still buy all the items that they tried. About 20 percent no longer buy any generics at all and 47.5 percent continue to buy some of the items they have tried. Of those buying generics, 5.5 percent had incomes under \$10,000; 16.7 percent had incomes of \$10,000 to \$14,999; 20.4 percent had incomes of \$15,000 to \$19,999; 21 percent had incomes of \$20,000 to \$24,999; and 35.8 percent had incomes of \$25,000 and up.

* Are you a coupon clipper? Manufacturers' cents-off coupons totaled \$81.2 billion last year, a 12 percent increase over 1978. The average overall coupon redemption rate remained stable at about 4.5 percent of 3.3 billion coupons. This is an average coupon use rate of 15 coupons per person per year. The average coupon's face value was 17.1 cents, up 10 percent from 1978. Manufacturers spent more than \$600 million redeeming the face value of coupons, plus another \$183 million in handling fees in 1979.

* "Solid gold" on a jewelry label does not mean pure gold. The word solid simply means the object isn't hollow. A 14-karat gold necklace may be solid, but its metal content is only 14 parts gold and 10 parts some other metal.

* "The age of abundance and overconsumption is over and the age of voluntary simplicity has become the next sequence," according to sociologist Dorothy Leonard Barton of Stanford University's Institute for Communications Research. Her research indicates that Californians, frequently the country's trend pace setters, have turned their backs on the materialistic, fun-seeking lifestyle glorified by advertising. She adds, "Voluntary simplicity is a precursor of a future social movement in the United States."

* Package design often involves nearly as much research as the invention of a new product. Packages must be attractive and eye-catching as well as strong enough to stand up to factory stacking, shipping, supermarket stacking and consumer use. Packaging expert Marvin L. Mausner of the Witco Chemical Corp. says future trends in packaging are toward safer closures, easier openings for the elderly and handicapped, energy conservation measures and money saving techniques.

* "The introduction of new products is a risky and precarious business -- there is more than a 90 percent failure rate for new products," says Reuben Mark, a vice president of the Colgate-Palmolive Company. First comes consumer research to determine the need for a product, followed by the laboratory's role in formulating the item. This is followed by a name search, package development and the marketing effort to make consumers aware of the product and its merits.

* * *

How "Cheat-Proof" are you? -- It's hard to cheat a consumer who is really thinking about what he or she is doing. The shopper who continually reminds himself or herself that it's impossible to get something for nothing should be in good shape in the marketplace.

Here are some ways that the unwary consumer can be ripped off:

* By taking the claims of advertising too literally. We see or hear some 200 ads every day, and many attempt to make you think that their product will make you feel better, look better or even make more money.

*By responding to "come on" phrases like "below cost" or "greatly reduced." Good ads give you ideas about using the product, how the merchant can provide service, where to buy certain items and how much they will cost.

*By believing advertising pitches that promise to pay you money for work you can do at home. Often unsaid is the fact that you have to buy something before you can begin work. Other such services only give you ideas on how to set up a business in your home, but don't provide a job.

* By wishful thinking that weight loss can be a fast, painless process. Every year consumers spend millions of dollars on quick weight loss schemes or products that only lead to thinner billfolds.

* By failing to comparison shop. Be on the alert when an ad says "\$25 off" but gives no original price. Ask questions, know the going price and check the same item in other stores. The same practice is wise when buying services rather than goods. Being informed is one of your best protections.

* * *

Alternatives to Shopping can be Risky --- Many consumers are on shaky ground when confronted with problems from door-to-door merchandising or mail order items. A few reminders:

* An honest door-to-door sales person will tell you quickly what he wants to sell and will go away if you refuse to buy. Beware of the sales person who does not leave easily. Don't be afraid to ask him or her to leave. Some sales

Add three--consumer briefs

persons ask for names of possible other customers and promise to give you a better deal, a discount or a dollar amount for any sales from this list of friends. This is against the law and you should ask anyone making such promises to leave.

* If you do buy something from a door-to-door sales person, you have a cooling off period of three business days to change your mind on any items costing \$25 or more. If you let the sales person or the company know of your change of plans during that period, the sale can be cancelled.

* People are cheated every day through offers that come in the mail. You may get something you didn't order as well as a bill. Remember, you needn't pay for any merchandise you didn't order or agree to. If you receive such items you can consider them gifts. Charities are allowed to send unordered merchandise to your house in hopes of getting a donation, but the same rule applies to such items. You don't have to pay for them or return them.

* Mail order businesses must comply with Federal Trade Commission rules that protect the consumer. The rule provides that you must receive merchandise when the seller says you will. If no delivery promise is made, the seller must ship the merchandise to you no later than 30 days after your order arrives. If you don't receive merchandise within a few days after that 30-day period, you can cancel your order and get your money back.

* * *

Beware Bait and Switch -- Have you ever gone to a store to buy something that was advertised at an appealing price and then been told that they don't have the item? Sales persons may try to sell you something higher priced than what you saw in the ad. This is called "bait and switch." It is against the law, but is sometimes difficult to spot. It's a good idea to take an ad with you and show it to the salesperson. And don't be afraid to walk out if you think unfair sales practices are being used.

Remember, as a consumer you have:

- *the right to be informed
- *the right to safety
- *the right to choose
- *the right to be heard.

* * *

Add four--consumer briefs

New Hope for Cyclists -- Secretary of Transportation Neil Goldschmidt has said that if one or two million more people would ride bikes for commuting as well as for other trips, the country would save 300 to 500 million gallons of oil each year and reduce air pollution. A new Department of Transportation set of goals is aimed at:

- * making roads more accessible to bikers by lessening road hazards and bottlenecks.

- * increasing public awareness and acceptance of bicycling as a means of transportation.

- * providing training for adults in bicycling skills and information for drivers on sharing the road with cyclists.

- * promoting stronger traffic law enforcement, particularly in high accident areas.

- * including bicycle use in highway planning and design.

- * encouraging more bicycle parking facilities at mass transit stations.

* * *

Gas by the Liter?-- About 4,000 service stations in the country now sell gasoline by the liter instead of the gallon. More stations may change to this system as a way of avoiding the system where the consumer pays twice the total registered on the gas pump.

The metric liter is slightly larger than a quart -- four liters equal about 1.1 gallons. A gallon equals about 3.8 liters. If your gas tank normally holds 16 gallons, it will take almost 62 liters. As a guide, if the pump says gas is 32¢ a liter, it's 121.1¢ a gallon; 34¢ a liter, \$128.7¢ a gallon; 36¢ a liter, 136.3¢ a gallon.

* * *

Motorcycle Deaths on the Rise -- Fatalities from motorcycle accidents have increased 46 percent since 1976, the year when many states repealed mandatory helmet laws. Rising numbers of accidents and fatalities along with the likelihood that higher gasoline prices will lead to more motorcycle use have prompted the National Highway Traffic Safety Administration (NHTSA) to renew its efforts to have mandatory helmet laws reinstated. According to a study done by the NHTSA, failure to use helmets is costing the public a tremendous sum for medical care, rehabilitation and public assistance.

* * *

Your Traffic Safety Odds -- The Insurance Information Institute offers the following statistics to motorists:

- * Speeding is a factor in more than one in four accidents.
- * Failing to yield the right of way is a factor in more than one in five accidents.
- * Tailgating is involved in nearly one in ten accidents.
- * The traffic fatality rate is more than three times greater at night than in the daytime.
- * Drinking is a factor in about half of all fatal traffic accidents.
- * The National Safety Council states that if all auto passengers used seat belts, at least 12,000 lives would be saved each year.

* * *

A Word About Shampoo -- Americans pour a lot of money over their heads and down the drain each year. The shampoo industry is highly competitive and much of the game plan is played out on your television screen and in the pages of national magazines.

Because most shampoos today contain synthetic detergents, they are considered cosmetics and are regulated by the Food and Drug Administration. Consumers seem to be looking for more from shampoo than just clean hair.

Marketing research shows that they would also like shine, "body", a tonic for damaged strands and a nice fragrance. All these demands keep chemists searching for ideal solutions. One continuing problem is that the more thoroughly synthetic detergents remove dirt, the more likely they are to irritate the scalp, strip off hair dyes, remove beneficial scalp oils or wipe out the good effects of some conditioning product.

Currently protein additives are in vogue as conditioners for hair. These include eggs, protein derivatives and glycerin. The Food and Drug Administration reminds consumers that any such materials cannot "feed" the hair because hair is dead tissue. Conditioners in shampoos are usually not enough to conceal damage to hair from dyes, permanent wave solutions or curling and drying techniques. Special conditioners applied after shampooing are needed to mask this type of damage.

Shampoo labeled for children or babies is formulated for hair that doesn't commonly receive deposits of hair sprays or other hair products. Baby shampoo usually does not contain perfumes, which can irritate the eyes.

* * *

Add six--consumer briefs

Marriage Tax Penalty -- You have probably heard of the "marriage tax", but do you know what it is? It refers to the additional tax that a two-earner couple must pay to the government over and above what they would pay if they were single with the same incomes. The tax results because the current income tax system does not distinguish between one and two-earner couples and both may file a joint return.

About 19 million couples pay a marriage tax to the federal government. It affects most two-earner couples and becomes effective when the spouse with the lower income earns at least one-fifth of the couples' total income. It affects couples at all points along the economic scale. Higher income couples pay a higher dollar amount, but lower income couples pay a higher percentage increase in their total tax bill. The tax load is greatest when the spouses have equal or nearly equal incomes.

The current tax structure has a bias toward the traditional family where the husband works and the wife is a full time homemaker. The traditional family is no longer the norm in America today. More than half of all married women work outside the home.

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Note to home economists:
If you will be bringing a group
to campus for this conference,
rework the final paragraph of
this story to reflect those
arrangements.

EXTENSION HOMEMAKERS' DAY
ON CAMPUS SET OCT. 30

The economic worth of the homemaker and consumer issues that have an impact on the family will be among the topics stressed at Extension Homemakers' Day on Campus, scheduled Oct. 30 on the St. Paul campus of the University of Minnesota.

The conference will include general sessions and informal workshops on a variety of consumer subjects and techniques. Registration is \$4 or \$8 if lunch is included. Sponsors are the Agricultural Extension Service and the University's College of Home Economics.

Speakers will include home economics faculty members from the University. Among the workshop topics are Understanding Youth: Teen Views on Friends, Leisure Time and Money; Redefining the Good Life (inflation and stress); Consumer Complaints; Bacon, Bologna and Botulism; Appliances; What Do You Get For Your Money When Your Eat Out? and When You're Alone (business and legal concerns of the widow).

To register for the conference, which will be held from 8:30 a.m. to 3:30 p.m. at the Earle Brown Continuing Education Center, contact the Office of Special Programs, 405 Coffey Hall, 1420 Eckles Avenue, University of Minnesota, St. Paul, MN 55108.

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