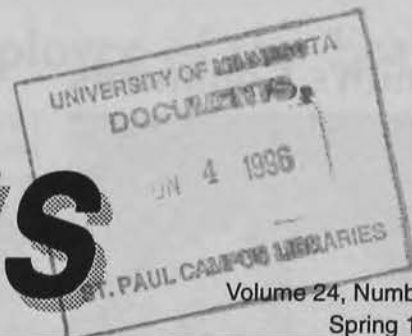


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The Northwest
Experiment Station

News



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THE INTERNET: A NEW TOOL FOR EXTENSION AND OUTREACH

by Jochum J. Wiersma, Small Grains Specialist



The Internet is enjoying a lot of attention these days. Is all this hype warranted? For starters, the computer

industry itself considers the Internet the biggest revolution since the birth of the personal computer. Some analysts have predicted the Internet to be the next form of mass media. It seems that the Internet is indeed here to stay, evolve, and grow at a tremendous pace. For instance, the number of homepages on the World Wide Web exploded from 1 million at the beginning of 1995 to over 6 million at the end of the same year. The amount of e-mail sent each day in just the United States is now almost twice that of first class mail.

Some background - The Internet is basically a method to network different computers, or computer networks. Its roots are in the late sixties when the United States Department of Defense created it as a means to maintain vital communications. Any part of the computer network could be down without disabling the remainder of the system.

Research and universities gradually became part of the Internet. Only recently has the Internet gone public. In addition, difficult commands and procedures have been replaced by user-friendly software interfaces.

The Internet allows for several so-

called protocols. Electronic mail is one such protocol. Information retrieval using the World Wide Web is another, and the latest protocol to be approved. The World Wide Web links documents and different sites via a simple click of a mouse button. Documents can contain text, images, sound, animation or even video. This allows it to be an extremely useful and powerful method to publish and disseminate information.

A new tool for extension and outreach - The virtues of the World Wide Web make it a great medium to disseminate information to farmers. In a survey, *Successful Farming* found that last fall already 16 percent of its readers were on line. This number has more than likely increased this past winter. This means that a substantial part of our clientele can be reached and serviced

via the Internet. Unlike a person, a computer never goes to bed. People can reach a homepage 24 hours a day, seven days a week and look for answers to their questions. The contents of many homepages is searchable and linked to other useful sites which may contain the information that was needed. It's like a giant library in your back yard.

Development of the Minnesota Association of Wheat Growers Homepage - An idea to build a library of production information transformed into building a homepage for wheat production. With this idea, I started talking to Kris Versdahl of the Minnesota Association of Wheat Growers and Bruce Brorson from the Red River Trade Corridor. With seed *(continued on page 6)*

The screenshot shows a Netscape browser window displaying the homepage of the Minnesota Association of Wheat Growers (MAWG). The browser title is "Minnesota Association of Wheat Growers". The address bar shows the URL "http://www.rtrade.org/smallgrains/". The page content includes a logo with a map of Minnesota and wheat stalks, the text "MINNESOTA ASSOCIATION OF WHEAT GROWERS" and "THE INTERNET SOURCE FOR SMALL GRAIN GROWERS". Below the logo is a horizontal line of dots. The main text reads: "Welcome to the digital home of the Minnesota Association of Wheat Growers (MAWG). Here you'll find daily news reports, weather, market reports, and everything else related to wheat production." It also includes links for "Today's News", "Library", "Wheat Facts", and "Other Sources". At the bottom, there is a "Survey Form" link and a navigation bar with buttons for "TODAY'S NEWS", "AG LINKS", "THE LIBRARY", "WHEAT FACTS", and "ABOUT MAWG".

This archival publication may not reflect current scientific knowledge or recommendations.
Current information available from University of Minnesota Extension: <http://www.extension.umn.edu>.

Smith's Comments



I think spring is finally arriving in northwest Minnesota. At least the sights and sounds of spring are here. Flooding is occurring in most of the region. Geese are flying north, and have brought with them many of the region's snowbirds that spent the winter in the sunny, warm south and are now complaining about the weather here, and Don Rasmusson, the University's barley breeder, calls every other day wondering if we can plant yet.

The Station's crop scientists have put together the largest and most ambitious research agenda in the Station's 101-year history. In addition to the research conducted on the Station, a minimum of 13 off-station research sites will be managed in 1996. This size program will tax the Station's research plot equipment and probably the dispositions of our scientists and technicians, especially if the spring weather conditions delay when planting can begin. I am frequently asked if the larger fields planted on the Station are used for research or are just planted for production and income. The answer is both. The majority of this acreage is used to provide feed and bedding for the dairy and beef research programs. The sale of products from these programs provide income which is part of the Station's overall operating budget. In addition to feed production, six lines of barley with greatly improved scab resistance from Don Rasmusson's barley breeding program will be planted to evaluate agronomic, disease and quality traits on a field scale basis. Vern Hoffman from NDSU and I will use 70 acres of sugarbeet to evaluate fungicide coverage in a sugarbeet canopy and an additional 170 acres will be involved in grid soil sampling and variable rate fertilizer application studies. These larger acreages are valuable assets for us and cooperating scientists for research that cannot be done on a small plot basis, as well as provide an opportunity to test on a commercial basis what is learned from the smaller research plots.

The 1996 Minnesota Legislature provided funding for a new "Controlled Environmental Science Facility" that will be shared by the Station and College. This facility will greatly enhance our research and outreach programs and the educational needs of the College. Please join me in thanking our area legislators and others who vigorously supported this much needed project.

Our summer field days will be announced shortly. While we look forward to visiting with you at these events, stop in anytime you are in the area. The door is always open and we can always find a fresh cup of coffee.

New Booklets

The Northwest Experiment Station published two booklets for the Centennial. One is a short history of the Station entitled, "*Gleanings*" and the second is titled, "*One Hundred and Five Years of Weather Reporting in Northwest Minnesota*".

If you are interested in obtaining a copy of either booklet, please contact Patti at the Northwest Experiment Station (phone 218-281-8602). There is a charge of \$1 per book for postage and handling.

Coffee Time

Northwest Experiment Station, UMC, and Northwest School of Agriculture retirees meet for coffee and reminiscing the last Wednesday of each month at the Golden Link in Crookston at 2:30 p.m.

All retirees and guests are invited to attend.

Josh Nielsen Receives 1st Scholarship

Recipient of the 1st **Sandra M. Smith Scholarship** was Josh Nielsen. Josh is a senior at Crookston Central High School attending classes at UMC. Josh has maintained a 3.85 GPA and will continue his studies at NDSU this fall.

The scholarship is designated to assist employees, spouses and/or dependents of the Northwest Experiment Station staff to continue their education at the college of their choice.

Josh is the son of Jeff and Shirley Nielsen, Crookston. Jeff is a junior scientist on the sugarbeet project.



Pictured are Larry Smith, Jeff Nielsen, Josh Nielsen and Sandy Smith.

"Weather Report"

Weather - the opening topic of most conversations - as in "Well, is it cold (or hot or wet or dry) enough for you?" Weather - it never satisfies everyone at the same time.

The winter of 1995 has had a little of everything. The average temperatures for October, November and December, and January were 6.2°, 12.6°, 9.7°, and 15.3° lower than the same months of '94 and '95. The first measurable snow of the season was received on October 31. As of March 31, we have received a total of 60 inches of snow.

In January, 1996, there were 8 days in a row where the high temperature for the day was below zero. The last 15 days of January the overnight lows ranged from -19° to -45°F. Record low temperatures were recorded for January 19, 20, 25 and 31. January brought 19.5" of snow for the month and blizzard conditions on January 18.

The cold continued into February with a high for the day of -29°F. which broke the record set in 1893 and an over-night temperature of -43°F. on February 1! The high of -22°F. and the low of -39°F. also set new records. Blizzard conditions, with winds clocked up to 51 mph, occurred on February 10 and there was blowing snow and blizzard conditions again on February 27. February's high temperature for the month was 43°F. on February 19 and on February 22 and 23 it rained! There was a little something for everyone.

March came in like a lion with snow squalls and blowing snow! Saturday, March 23, was the beginning of the 5th blizzard of the season with wind gusts ranging from 40 to 45 mph. The average temperature for March was 14.7°F, the lowest average temperature recorded for March since 1970.

The first three months of 1996 have been interesting, but at least the mosquitos are not a problem yet!

Boutain Named Employee of the Year



James Boutain, Farm Equipment Operator, was the recipient of the 10th Annual Employee of the Year Award at the Northwest Experiment Station.

Jim began working at the Station in 1982 as a farm equipment operator on the farm crew. Jim is responsible for grain and corn planting, spraying and harvesting, along with the many other activities that go along with farm work. The Station has also benefitted from Jim's strong background in farm mechanics.

Jim was nominated for the award by his co-workers because of his knowledge of his job, his willingness to help other employees and his friendliness toward his co-workers.

The **Employee of the Year Award** was designed to promote and recognize excellence in job performance among Civil Service and Bargaining Unit personnel. Funds for this special award come from a President's Club donation designated especially for this purpose.

Congratulations, Jim, on receiving the 1995 Employee of the Year Award.

Roger Ruthenberg Retires

Roger and Darlene Ruthenberg are pictured at Roger's retirement party last fall.

Roger retired from his position as research plot coordinator with 30 years of service to the Northwest Experiment Station.

Roger and Darlene plan to spend winters in Arizona.

The employees of the Northwest Experiment Station wish Darlene and Roger many happy years of retirement.



New Graduate Student "On Board"



Alan Todd Dyer, a native of Portersville, Pennsylvania, moved to Crookston in late March to begin a masters degree program in plant pathology. His advisor is Dr. Carol E. Windels.

Alan will spend the summers of 1996 and 1997 in-residence at Crookston to conduct field research on the effect of weeds and rotation crops on *Aphanomyces cochlioides* - a pathogen that causes root rot on sugarbeet. During September through May, Alan will take classes on the St. Paul Campus and continue his research.

Alan is a graduate of Cornell University with a B.S. degree in plant biology. He has a unique 'plant' background - as a research technique working on yellows disease of ash and on late blight of potato and most recently, as a vegetable grower in Pennsylvania.

Beale Receives Masters Degree



Julie Beale, former graduate student of Dr. Carol Windels, presented her M.S. research seminar, "Variability and Spatial Patterns of

Aphanomyces cochlioides in Soils Assayed in the Greenhouse Compared to Root Rot in the Field" and passed the thesis defense exam. Julie did most of her research as an in-resident graduate student the summers of 1993 and 1994 at the Northwest Experiment Station, Crookston. She is currently employed as a plant disease diagnostician/research assistant at the University of Kentucky, Lexington. Congratulations, Julie!

Northwest Experiment Station Staff



Pictured left to right: (Front) Rod Wegge, Milan Samshall, Jim Boutain, Janet Solheim, Anne Burke, Patti Malme. (Row 2) Tim Danielson, John Wiersma, Dale Kopecky, Jim Cameron, Carol Windels, Mike Danielson, Gene Peters, Larry Smith, Marlyn Jacobson. (Row 3) Rusty Remick, Bob Bouvette, Todd Cymbaluk, David Szczech, Albert Sims, Jason Brantner, George Marx, Harvey Windles. (Back) Jochum Wiersma, Rob Heggie, Jeff Nielsen, Bobby Holder, Troy Gullekson, Dan Svedarsky. (Not pictured) Jim Broekemeier, Mark Hanson, Brad Heppner, Joe Larson & Phil Thom.

A NEW MANAGEMENT TOOL FOR DAIRY RESEARCHERS AND PRODUCERS

by George D. Marx, Dairy Scientist

All recent nutritional research projects involving dairy animals at the Northwest Experiment Station have incorporated



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parameters in data collection on the dairy animals. This is a relatively



Body condition scoring is also being utilized in the large cow vs. small cow breeding project at the Northwest Experiment Station, Crookston

recent technique that has useful implications not only for research, but for dairy producers in the field as another management tool. The technique involves the monitoring of fat tissue, body reserves or energy level of individual dairy animals and is

particularly useful for lactating cows, dry cows and replacement heifers.

Body condition scoring (BSC) is simply based on giving an animal a score ranging from one to five. A score of one (1) means virtually no fat and is an emaciated animal (extremely underconditioned). A score of five (5) means the cow is obese and very fat (severely overconditioned). The scores are determined by the observer both visually and by palpation (feeling) of the amount of fat cover over such anatomical structures as the tailhead, hooks, pins, ribs and vertebrae of the spine.

To fully learn the point system, one should obtain a pictorial description from one of the pharmaceutical firms, most are in color, easy to visualize and easy to learn the scoring technique. Firms such as Upjohn, Elanco, Roche, Arm and Hammar, will send

these free of charge or one can obtain from your local veterinarian, extension educator or *Hoard's Dairyman*.

An example of one structure, description of the ribs, equates to this condition score:

- 1 = short ribs have limited flesh covering and ends are sharp to touch
- 2 = short ribs are apparent, but not prominent and have some flesh area
- 3 = short ribs can be felt, but not easily seen
- 4 = short ribs are felt only with firm pressure
- 5 = short ribs buried in fatty tissue and not apparent

This management tool of body condition scoring can be utilized best at monthly intervals, but especially important at calving, around peak production, mid-lactation and at drying-off time. Desired scores at various stages of the animal are as follows:

Time-stage	Desired Score	Reasonable Range
Yearling Heifer	3.0	2.0 - 3.5
Calving Time	3.5	3.0 - 4.0
Peak Milk	2.5	2.0 - 2.5
Mid-Lactation	3.0	3.0 - 3.5
Dry-off Time	3.5	3.0 - 3.5

The most important factor to observe is the change in body condition between one stage of lactation and another. If individual cows or herd basis scores do not meet the suggested goals or reasonable ranges on scoring, one needs to take appropriate management action to define and correct the problem or make ration changes to reflect appropriate body reserves relative to associated changes in milk production, reproduction and general health.

Body condition scoring costs nothing except for a little of the dairy operator's time, and is quick and easy. Ask your veterinarian or extension educator for (Continued on page 6)

Gary McVey Retires



Gary McVey, former chairperson of the agriculture division, professor at the Northwest Experiment Station (NWES) and most recently, general manager for northern Minnesota at the Agricultural Utilization Research Institute (AURI), announced his retirement as of January 1, 1996.

Gary came to UMC in January of 1974 as chairperson of the agriculture division and the mechanized agriculture program.

Gary developed and provided leadership for the "Commercial Vegetable Production" program at NWES and the AURI. Starting in 1984 with five varieties of vegetables in observational trials, the applied research program has expanded to include 20 vegetables in replicated trials covering six acres. Gary has assisted growers in Minnesota and North Dakota to develop vegetable production systems.

From 1988 to 1992, Gary was a research scientist at the NWES with responsibility for applied research in commercial vegetable production. From 1992 until his retirement, he was with AURI located on the UMC campus.

Gary and his wife, Nancy live south of Crookston. They have two grown children and two grandchildren. He buys and restores horse drawn vehicles as a hobby.

(Reprinted with permission from The Torch).

(Internet: Continued from page 1)

money through a grant from the Minnesota Extension Service, we started the project this past summer. With a relatively modest investment, we have been able to develop a rather complete site which contains daily news, a library with production information, and links to other sources on the Internet with relevant information.

The homepage even features market and weather data through links with other homepages. I encourage you to visit our homepage. The URL is:

<http://www.rtrade.org/smallgrains/>

I hope that in the not too distant future we will be able to provide you with 'decision aid systems' via this site. You would provide answers to a number of questions and the computer will provide you with an answer via the Internet. This could be as simple as a phone book with regional specialists or as complex as a system for herbicide choices and selections.

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The Northwest Experiment Station News
Patti Malme, Associate Editor

The University of Minnesota is committed to the policy that all persons shall have equal access to its programs, facilities, and employment without regard to race, color, creed, religion, national origin, sex, age, marital status, disability, public assistance status, veteran status, or sexual orientation.

This publication/material is available in alternative formats upon request. Please contact Patti Malme, NWES, (218) 281-8602.

Address Correction Requested



(Dairy continued from page 5)

more specifics if you have a question on how to score or how to use these condition scores. The resulting scores give one a good assessment of how well your nutrition and management programs are meeting the needs of the cow. Body condition scoring is just another management tool to aid in management decisions, such as helping to adjust or fine-tune rations for maximum production and breeding efficiency. The score indicates when the cow is in a severe negative energy balance, if she is carrying enough condition at calving to carry her through early lactation or if she is carrying too much condition (approaching 5) which will make her prone to a number of health conditions associated with fatty liver syndrome, calving complications, ketosis, metritis, displaced abomasum, off feed and other problems.

Utilizing the body condition scoring system can help prevent these potential disease conditions and reproductive problems as well as milk production losses. To ensure proper body condition on dairy cows and replacement yearling heifers it is well worth the time and effort of the dairy producer or herd manager to use this new management tool which is becoming widely accepted in the industry.

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