

The Northwest Experiment Station News

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Carol Windels Joins NWES Staff As Plant Pathologist

A plant pathologist, Carol E. Windels, has joined the staff of the Northwest Experiment Station, Crookston. Windels is the first plant pathologist to be stationed at a branch station of the University of Minnesota's Agricultural Experiment Station.

At Crookston, Windels will conduct research on diseases of crops grown in the Red River Valley. Carol was a scientist in the Department of Plant Pathology on the University of Minnesota St. Paul campus before she joined the Northwest Experiment Station staff. In that capacity, she worked with plant pathologist Thor

Kommedahl on the Experiment station-supported research on Fusarium stalk rot and other corn diseases and on using microorganisms as a seed treatment to protect against seed rot and root rot diseases in corn and peas.

Windels is a native of Long Prairie, Minnesota. She holds a B.A. degree in biology from St. Cloud State University, and M.S. and Ph. D. degrees in plant pathology from the University of Minnesota.

Carol and her husband, Mark, have purchased a home in Crookston.



Jeff Volesky Named Jr. Scientist - Livestock



Jeffrey Volesky is a new employee in the livestock department at the Northwest Experiment Station with a classification as junior scientist-livestock. Jeff comes to the Station with a B.S. degree in animal science from NDSU which he completed in 1981. Jeff has had considerable experience as a herdsman in Helena, Montana; Sand Hill Farm in Belfield, North Dakota and with the experimental beef unit at NDSU for 27 months as a student.

Jeff will work under the direction of Dr. Harvey Windels, animal scientist, in the areas of beef and sheep research. Herd maintenance, health, nutrition and calving duties along with research records have been assigned to Jeff.

We welcome Jeff and his wife, Ida, and daughter, Alicia, to Crookston.

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



The weather has been the major topic of conversation at the morning coffee sessions since early spring. In early April, the talk was of a late spring planting season because of excess water in the fall of '83 and the idle acres in the PIK program. For many of us, this wet condition did not materialize and the crop went in on time, and in an orderly fashion. In late May the conversation switched from the weather being too wet to being too dry. However, the drought did not materialize and at this time everyone is wondering when the monsoons will be over. Mother Nature has once again proven most of the coffee cup weather prognos-

icators wrong. I can hardly wait for next month's predication (I'm predicting a drought!).

Dr. John Lamb will join our staff on July 1. John will assume responsibility for the soil fertility research the Station is involved with in northwest Minnesota. John is from Nebraska where he recently completed his Ph. D. at the University of Nebraska in soil science.

The Minnesota State Legislature appropriated money for renovation of the Agricultural Research Center during the past legislative session. The current auditorium will be remodeled, and Room 114 will be modeled to provide additional office space of which we are in extremely short supply. If planning moves along at the current pace, we hope to begin remodeling and construction before September 1.

The annual Northwest Experiment Station Crops and Soils Day is set for Wednesday, July 18. This is an opportunity for you to see what **your** experiment station is doing in the research areas. We hope to see you on July 18.

Introducing Associates 1000 Members For Northwest Experiment Station

Leonard and Marie Hapka were among the very first couples to write a personal check to the Northwest Experiment Station Research Fund. This is a permanent endowment which provides income each year to support agricultural research, especially to support those research needs where the usual source of funding doesn't cover. Leonard and Marie are leading farmers and at the top as a producer of seed potatoes. He began his potato farming by growing one acre of potatoes as a summer school project when he was a student at the Northwest School of Agriculture. Potatoes and the usual rotational crops have been grown on the Hapka farm since 1945.

Leonard and Marie and their son, Leon, have organized the Hapka Seed Farm, Inc. In addition to potato seed production, using the latest tissue culture technology, they also operate a seed grain conditioning plant.

Besides farming, Leonard has been busy serving the potato industry on regional and national levels and is on the

advisory board to the St. Paul Bank of Cops and the Extension Agent Advisory Committee. He has served long and well in the rural electric cooperatives as secretary - treasurer of PKM and as president of the Minnesota Statewide Rural Electric Association.



Superintendent Larry Smith presenting an ASSOCIATES 1000 plaque to Leonard and Marie Hapka of Argyle.

Calendar of Events

Crops & Soils Day
July 18

Fiber Fuels Institute & Trade
Show - Superior Radisson Yacht
Club, Duluth
August 7 - 10

1985

Sugarbeet Growers Meeting
Grand Forks
January 23

Sugarbeet Growers Meeting
Grafton
January 29

Sugarbeet Growers Meeting
Fargo
January 31

Southern Minnesota SBG
Meeting Willmar
February 13

Red River Valley Winter Shows
February 13 - 24

American Association of
Sugarbeet Technologists - San
Diego
February 24 - 28

Sugarbeet Growers Institute
March 20 & 21

Leonard and Marie have been active in their church and in 4-H work. The University of Minnesota welcomes Leonard and Marie to the ASSOCIATES 1000 Club, a private funding effort in support of the land grant university.

CROPS AND SOILS FIELD DAY

Wednesday, July 18, 1984

Northwest Experiment Station, Crookston

There are four general tours each 45 minutes in the morning and a "once only" sugarbeet weed control tour in the afternoon. Lunch will be served in the College Dining Room. There will be several clinics and exhibits and free refreshments on the grounds. Come and spend the day visiting your Experiment Station.

GENERAL TOURS

7:45 a.m. - 12:30 p.m.

Tour I: Small Grain Variety Trials

- a. Barley
- b. Wheat
- c. Oats

Tour II: Weed Control

- a. Weed Control in Wheat and Barley
- b. Weed Control in Soybeans and Sunflowers
- c. Herbicide Carryover

Tour III: Plant Disease and Control and Soybean Management

- a. Disease Incidence and Control With Conventional and Reduced Tillage Systems (wheat & barley)
- b. Soybean Row Spacing and Population
- c. Soybean Varieties (public & private)

Tour IV: Soil Fertility

- a. Soybean Fertilization and Inoculation
- b. Phosphorus Calibration
- c. Residual Soil Phosphorus & Potassium levels
- d. Fertility Management in a Continuous Wheat Cropping System
- e. Visual Indicators of Physiological Maturity in Wheat

** All tours are subject to changes depending upon weather

SUGARBEET WEED CONTROL TOUR

1:30 p.m.

(once only - Tour will assemble and leave from registration area.)

ALAN DEXTER & ALLEN CATTANACH

Sugarbeet Weed Specialists
NDSU & U of M

10:00 a.m.

HORTICULTURE SEMINAR & FIELD TRIP

Host, Roger Wagner, Associate Professor of Horticulture, Technical College (Meet in Room 114 of Ag Research Center)

Field trip of shrubs, trees and flower gardens on UMC campus followed by slide program of landscaping methods using kinds of items viewed on the tour.

CLINICS & EXHIBITS

Plant Pest Problems (disease, insect & weed)
Integrated Pest Management
Sugarbeet Information
Technical College Information
College of Agriculture, St. Paul
Animal Science Information
Horticulture Clinic
Fiber Fuels Clinic
Wildlife & Conservation Research
Northwest Experiment Station Foundation
Livestock barns will be open to visitors throughout the day.



LUNCH - FOOD SERVICE BUILDING - TECHNICAL COLLEGE

11:30 - 1:30

Chicken Dinner - \$3.50



REFRESHMENTS

Courtesy of Crookston Banks, PCA, Federal Land Bank and Fertilizer Dealers

Wheatlage For Dairy Animals

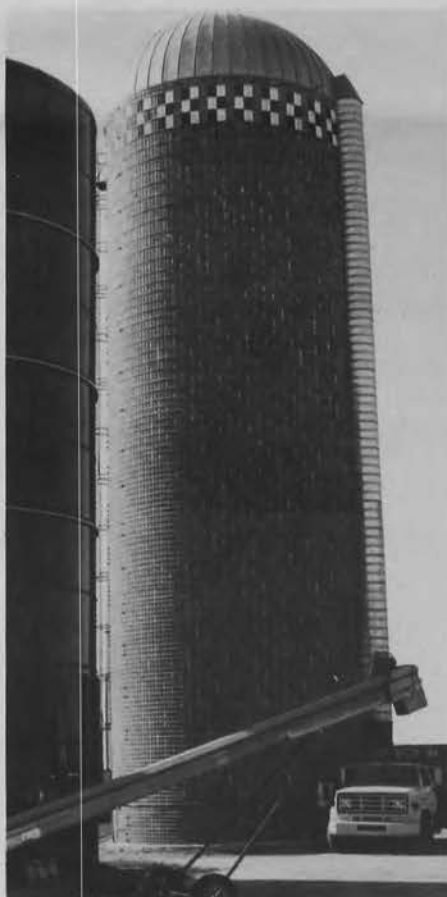
by George Marx

Wheatlage, sometimes known as wheat silage where the whole wheat plant is ensiled, is a good forage for dairy cattle if properly harvested, stored and fed. This spring there has been more interest than usual in this crop for forage since a large number of acres were fall planted and many individuals want to harvest a crop before growing a crop of corn, sunflowers, soybeans, or another forage crop. Traditionally, many producers utilized winter rye or wheat as a cover crop in the fall, and as a pasture crop until late May, then plowed it under before seeding their conventional crop for the season. Now, more interest has developed in using the crop as medium moisture stored forage and getting it harvested early as not to unduly delay planting of the subsequent crop. This means getting it off before heading, preferably in the early or boot stage of development which results in an excellent quality forage for milk cows, growing heifers and beef production.

An experiment was conducted at the Northwest Experiment Station, Crookston, on the utilization of wheatlage for replacement heifers and for dairy steers. The early harvested wheatlage (heads were still in the sheath or boot) resulted in growth rates of 1.52 pounds daily in yearling dairy heifers with a control group fed alfalfa haylage gaining 1.62 pounds daily. No grain was fed to either group of heifers. Trace mineral salt and dicalcium phosphate were the only supplements fed. In the early steer trial gains on boot stage wheatlage along with eight pounds of barley per head daily resulted in gains of 2.55 pounds daily whereas those fed alfalfa haylage and the same grain gained an average of 2.48 pounds daily. Both groups were supplemented with T. M. salt and dicalcium phosphate.

The results of this trial indicated that wheat forage fed in the boot stage of development was an excellent forage and resulted in comparable gains as animals fed alfalfa haylage. I must emphasize the importance of early cutting of the wheat plant for good palatability, intake and nutrient content for best animal perform-

ance. This point was again borne out in a study conducted last year in a beef feeding trial at Crookston. Animals fed whole plant oat or barley small grain silage that was harvested five days after heading gained significantly slower than steers fed alfalfa haylage (1.71 pounds vs. 2.67 pounds ADG). Therefore, when feeding small grain silage, it's very important to harvest prior to the heading stage for best results.



Additionally, wheatlage should be chopped $\frac{1}{4}$ - to $\frac{3}{8}$ -inch theoretical cut. This results in an average $\frac{3}{4}$ inch actual length which promotes good packing. A raggy or long chop because of dull chopper knives or if not properly adjusted may result in poor packing and more chance for spoilage due to air entrapment and infiltration. Storage moisture content is also important; don't store too wet or too dry. The material should never seep, but must be damp enough to exclude excess air in storage and ferment properly. Optimum moisture percentage also depends on type of storage.

Proper mineral and protein supplementation are also important with wheatlage feeding. Compared to corn silage, less protein supplement is required and may not require any additional protein for growing replacement heifers and feeding steers. However, for lactating dairy cows some supplemental protein may be necessary. Calcium and phosphorus supplementation would be similar to animals fed corn silage, but would require more calcium than for animals fed alfalfa forage with nearly equal phosphorus supplementation. The forage should always be tested for nutrient analyses to determine exact supplementation necessary for a particular group or class of livestock.

In summary, wheatlage can be an excellent feed for dairy cattle, including dry and lactating cows, replacement heifers and feeding animals for beef production. Wheatlage is like alfalfa haylage in that it requires good management in harvesting, storing and feeding to obtain maximum nutrient content, palatability, dry matter intake and to maintain high quality. Wheat grown for whole plant forage and cut early can fit in some double cropping plans and is easy to grow. This crop is less subject to drought and frost and usually results in producing a more dependable and consistent yield compared to most other crops. Also, wheatlage may fill the gap if additional forage is needed and serves as an alternative to help stretch your supply of forage.

Experiment Station Employees Construct New Feed Cart

George Weiland, M and O Mechanic, and Earl Carlson, General Maintenance Supervisor, at the Northwest Experiment Station, Crookston, are shown with the completed automated feed cart constructed in the shops for the dairy department.

This cart has the feed delivery system isolated on electronic load cells so that feed rations can be delivered and unloaded in specific amounts to each cow. The operator punches in the allocated amount for a particular animal and the unloading mechanisms deposit the feed at the appropriate station.

The shop crew collaborated some years ago with the Berg Manufacturing Company, Marshfield, WI, to construct a weighing-type feed cart which could be used for research accuracy. There was not enough call for this level of accuracy in commercial farm herds and Berg did not build this for commercial production.

Weiland and Carlson built the new cart from the ground up using some of the general features of the Berg cart but changing drives, sprockets, and in some cases the length and width of the overall machine. Larger axles and drives will

hopefully reduce some of the maintenance and breakdown encountered with the old model.

Dairy herdsman and farm animal attendants calculate that the automated feed cart saved over four hours of labor each day in the weighing and feeding process which formerly was done with a hanging scale and pan. This cart is another example of "one of a kind" needs for an agricultural experiment station and Weiland and Carlson have provided the talent and effort to build an entirely new research unit.



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