

The Northwest Experiment Station News

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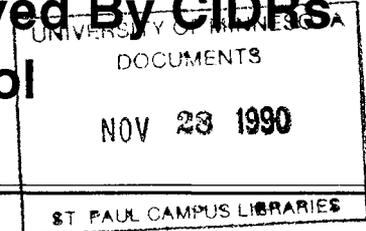
CROOKSTON, MN

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Accelerated Lambing Potential Improved By CIDRs And By Proper Ram Control

by Harvey Windels



Two more trials (trial 3 & 4) have been completed the past year on the seasonality of breeding cooperative study with Dr. Jon Wheaton, University of Minnesota, St. Paul. The results were very encouraging for breaking anestrus earlier and synchronization of ewes with artificial as well as by natural means. In the first two trials involving 24 and 48 ewes, respectively, seasonal anestrus was effectively broken with CIDRs (intravaginal progesterone releasing devices) or with ram introduction when breeding the first week in August.

In trial 3, CIDRs were put in (20) 1/2 Finn-1/2 Targhee and (20) 1/4 Finn-1/2 Suffolk-1/4 Targhee ewes (4 & 5 years old) on July 6. Twelve ewes of the same age and breed types were assigned to the control treatment. Twelve days later (July 18) the CIDRs were removed and 4 Suffolk 2-year old rams were put in with the 52 ewes. All 40 of the CIDR treatment ewes cycled and bred within 48 hours from CIDR removal. Eleven of the twelve control ewes cycled and bred (August 2-12) with the majority cycling from 19-23 days from ram introduction. One control ewe bred a couple of months later.

Conception on first estrus following CIDR removal was exactly 50% (20 ewes) with a lamb drop of 1.70 per ewe (December 12-19). Seventeen ewes conceived on second estrus and lambled December 28 to January 2 with a lamb drop of 2.00/ewe and two ewes conceived on third estrus with an average of 2.5 lambs for an overall lamb drop of 1.87/ewe for CIDR treated ewes. Ten of the twelve control ewes conceived on first estrus and lambled from December 29 to January 8, 1990. One conceived on second estrus and the other ewe lambled March 6. The average lamb drop for the control ewes was 1.83/ewe.

The December and January lambs were weaned at 7 weeks of age in two groups (February 2 and February 21) in preparation for trial 4. Grain was withdrawn from both groups of ewes at 6 weeks post lambing. Flushing with one lb of grain and three lb of alfalfa haylage DM began on March 1 for both CIDR groups and the control ewes. Also on March 1, CIDRs were inserted in the remaining 37 CIDR treated ewes. The CIDRs were

removed March 13 and 4 Suffolk 2-year old rams put in. Thirty-three of the CIDR ewes cycled and bred. Four did not respond to the CIDR's, but two of these did respond to ram introduction. The controls all cycled and conceived on first estrus from March 26 to April 6, 1990.

The August lambing went very well with 23 of the 33 CIDR ewes lambing on first cycle from August 6-10 with a drop of 1.91 lambs/ewe whereas the 12 second cycle CIDR ewes dropped 1.75 lambs/ewe as shown in Table 1. Control ewes lambled from August 25 to September 3 with a lambing rate of 1.80/ewe.

Table 1. August Lambing - 1990

	Date Lambed	Lambs/Ewe
23 CIDR	8/6-10	1.91
12 CIDR	8/25-29 ^a	1.75
CIDR Average		1.86
10 Control	8/25-9/3	1.80

^a One lambled September 17 (3rd Cycle)

In preparation for natural fall breeding (trial 5), the lambs from the August lambled ewes were weaned in two groups at 6 weeks of age with an average weight of 37 lb. The first cycle CIDR ewes were exposed to the rams beginning 8 days post weaning (September 25) whereas the second cycle CIDR and control ewes were exposed to rams at 3 days post weaning (October 11). In both groups all ewes cycled spontaneously and bred within 18 days from ram introduction and will lamb again in late February and March.

The CIDR devices appear to be useful for breaking anestrus and synchronizing ewes and providing more predictability to accelerated lambing systems. The control ewes have responded as well as the CIDRs and much beyond expectations. An important or essential aspect for success in using either the CIDR or the ram introduction effect for accelerated lambing or off-season lambing, apparently is to maintain a strict separation of rams and ewes for a considerable period of time prior to mating (probably 2 months or more). Ewes must not be able to see, smell or hear the rams to respond properly when rams are introduced for mating.



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Current information available from University of Minnesota Extension: <http://www.extension.umn.edu>.

Smith's Comments



Whoever said secretaries don't have a lot of clout has never met my secretary, Patti. As I left for deer hunting last Friday morning, she reminded me that my article for the newsletter was not written. I reminded her that deer hunting took precedence over newsletter articles. She disagreed as she is not a deer hunter. It is truly a beautiful day as I sit in this deer stand, waiting for that elusive twelve-point buck to walk by, and write my article.

The final fall field work on the Station last week signaled the end of the 1990 crop year. The season was a mixed bag to say the least. The wheat and barley crops were close to normal, but the corn, alfalfa and sugarbeet yields approached near record low for the Station. The only significant rainfall of the season occurred in early June, and with no fall

rains to recharge the soil, the prospects for the 1991 season are not very upbeat at this time. But then again it could rain all during the 1991 season. An off-station research site in the Hector, MN area had over 47 inches of precipitation this year. There is always hope.

Over the past six months there have been many new faces added to the Station's staff, and some trusted friends have retired or are pursuing new careers. Last week two new resignations crossed my desk. Dr. John Lamb, soil scientist since 1984, has resigned to take a position with the Soil Science Department in St. Paul. John's research contributions during his tenure with the Station will have major impacts on the agriculture of the area for many years to come. Donna Nabben-Schindler, junior scientist on the plant pathology project, has accepted a research position with Holly Sugar in Colorado Springs, Colorado. The Holly sugarbeet growers will benefit from her knowledge of soil borne diseases that affect their production. It will be hard to find someone with Donna's dedication to her job and to the problems that face sugarbeet growers of Minnesota and North Dakota. We wish all of our past employees many successes in their new careers or a long and happy retirement.

The Station's major livestock days are soon approaching. We hope to see you on Beef Cattle Feeders Day, December 4 or Dairy Day, January 9.

CALENDAR OF EVENTS

Beef Cattle Day - December 4

NWES Dairymen's Day - January 9

RRVWS - February 15-21

Int. Sugarbeet Growers Inst. - March 20-21

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ARNOLD RETIRES

Arnold Benson, custodial engineer at the Northwest Experiment Station, retired on May 7 with 25 years of service to the University of Minnesota.



Arnold started at the Northwest School of Agriculture as a carpenter on June 7, 1965. In the changeover to the Technical College, Arnold moved to a building caretaker position in a dormitory. When the building caretaker at the Ag Research Center retired in 1982, Arnold joined the staff of the Northwest Experiment Station. His smiling face and helpful attitude will be missed by the visitors to the Station and by those who used the Auditorium as Arnold was the only one on the staff that knew how to run all the audio-visual equipment.

Arnold's retirement plans include some gardening, some traveling and some relaxing. We wish Arnold and Marlys a long and happy retirement.

Jeff Resigns



Jeff and Ida Volesky were honored at a farewell party in the Ag Research Center in April. Jeff resigned his position as assistant scientist to return to a family farming operation. Jeff joined the Station in January 1984. He was responsible for the routine day-to-day operations in the beef and sheep department. We will all miss Jeff's easy going smile and his willing attitude to help. We wish Jeff and his family the best of luck in their new home.

You are Invited to the
23rd Annual

BEEF CATTLE DAY

Northwest Experiment Station, University of Minnesota
Crookston, MN 56716

Tuesday, December 4, 1990

Harvey Windels - An Sci., Northwest Experiment Station, Crookston
Pete Anderson - Ext. An Sci.-Beef Nutrition & Management, U of M, St. Paul
Randy Ellingboe - Minnesota Pollution Control Agency, St. Paul
John Lawrence - Minnesota Extension Economist-Marketing, St. Paul
Richard Vathauer - Supt., West Central Experiment Station, Morris

- 9:30 Registration and Coffee, Ag Research Center Auditorium
Registration cost -\$5.00 (to cover travel expenses for speakers);
Minnesota Beef Research Booklet - \$2.00; Lunch (if wanted) - \$5.00
- 10:00 Welcome - Dr. Larry Smith, Superintendent, Northwest Experiment Station
- Northwest Experiment Station Beef Research Update**
Dr. Harvey Windels
- 10:30 **Proper Use of Finaplix Implants**
Dr. Pete Anderson
- 11:15 **Feedlot Runoff and Waste Management Regulations**
Dr. Randy Ellingboe
- 12:00 **Feedbunk Management For Maximum Intake**
Dr. Pete Anderson
- 12:30 Lunch - Conference Center
- 1:30 **1990 Cattle Feeding Budgets and Breakevens**
Dr. John Lawrence
- 2:00 **Minnesota Beef Research Update**
Dr. Richard Vathauer
- 2:30 **Question and Answer Period**
- 2:45 Adjourn - Coffee and/or View our Facilities and Cattle on Trial

Sponsored by:
Northwest Experiment Station, Animal Science Department, Minnesota Extension Service
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COMERCIAL VEGETABLE PRODUCTION

by Gary McVey

The Northwest Experiment Station initiated a research program in commercial vegetable production in 1985. With support from the (NWMIF) Northwest Minnesota Initiative Fund, the (AURI) Agricultural Utilization Research Institute of the Greater Minnesota Corporation and the University of Minnesota, an on-going research program has been established and expanded.

Varietal screening is the main objective of the research project as information on varieties which will respond positively to commercial production practices is quite limited. Other objectives of the program include: the development of mechanization and irrigation systems; the development of an integrated pest management program; the adaptation of harvesting, cooling, storage and transportation techniques to area conditions; and the development of regional and national marketing strategies. A horticulturist, Tom Wall, was hired with support from a \$50,000 NWMIF



grant. A grant of \$4,500 from the AURI has made available a portable vegetable cooler developed by the Agricultural Engineering Department, U of M, St. Paul.

This past year the research program trials included 10 broccoli, 16 cauliflower and 14 cabbage varieties including 4 red cabbage varieties. Yields were competitive with California and Michigan, with broccoli, as an example, yielding up to 18,000 lbs per acre at the NWES. Nationally, 12,000 lbs per acre is considered good. Individuals in the area are growing cole crops, celery and carrots.

Other crops being considered for their commercial potential include asparagus, bibb-type lettuces, turnips, red beets, spinach, onion and melons. Melon production has proven to be viable in the area by using clear plastic mulch and micro-irrigation to allow maturation of the crops before the frost.

If you are interested in the vegetable production area, please call or stop by the NWES or better yet, sign up for one of the 1/2 credit courses being taught by Gary McVey and Tom Wall during winter quarter 1990-91.

Torch & Shield Recipients



Torch and Shield recipients pictured with Don Sargeant, (left) and Larry Smith (right) are Roy Thompson, Assistant Director, Minnesota Agricultural Experiment Station, St. Paul; Chris Ruttger accepting for his father, A. Jack Ruttger, owner of Ruttger's Bay Lake Lodge, Deerwood; Kent Bruun, owner of Bruun's for Men and Chair, College Liaison Committee, Crookston; Al Westburg, President, UMC Athletic Booster Club, Crookston; Clinton Hewitt, Associate Vice President, Physical Planning, U of M, St. Paul.

The annual Torch and Shield Banquet was held Thursday, November 1, 1990, in the Brown Dining Room, Conference Center, University of Minnesota, Crookston.

This award honors individuals for their various contributions to the University of Minnesota, Crookston.

Receiving recognition as new members of the President's Club were Allen and Freda Pedersen; Jeffrey Pierce and Andrew Wardeberg. New members of the Associates 1000 Club who received plaques at the banquet were Bonita and Bruce Anderson, Gregory and Denise Boetcher, Morris Dahl, Marilyn and Marlys Jacobson, Robert Jeska, Lyle Kasprick, Orvis and Carol Kloster, Lester Nielsen, Kramer Olsen, Mr. and Mrs. Gerhard Ross, Jim and Sharon Sims, David Spong, Janet L. Utech and Roger H. Ward.

The Eleanora Amalia and Ben Filipi Memorial Scholarship Fund and the Blandin Foundation were honored as new Trustees Society members.

New members of the Corporate Presidents Club are Marvin Lumber & Cedar Company and Otter Tail Power Company. New Corporate Associates 1000 Club members are Central Livestock Association, Seed Conditioner & Marketing Association.

The University of Minnesota, Crookston and the Northwest Experiment Station sincerely appreciate the contributions and support.

Meet The New Staff. . .



Todd Steffes, a native of Casselton, North Dakota, was hired in April 1990 as a junior scientist on the wind erosion project under the leadership of Soil Scientist, John Lamb.

Todd graduated from NDSU in 1988 with a Bachelor's Degree in agronomy. He was previously employed by the ASCS in Fargo; Pioneer Hi-Bred International, Glyndon; USDA Sunflower & Flax Research Project, Fargo; and Turner Aerial Spraying Service, Arthur, North Dakota. Todd enjoys spending his free time at the lake and working with his horse.

Welcome to the staff, Todd.



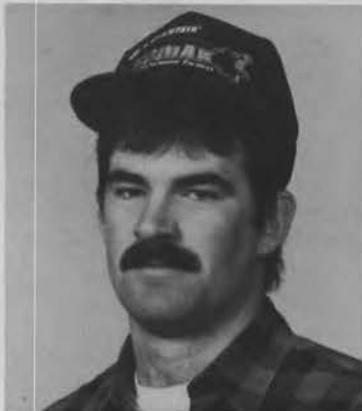
Jeff Nielson was hired as a junior scientist on the sugarbeet project to replace Julie Reitmeier, who resigned to spend more time with her family.

Jeff has an AS degree in seed technology and crop science from UMC and he graduated from the University of Minnesota, St. Paul in May 1990 with a BS degree in agronomic science.

Jeff previously worked for Dahlgren's for 17 years. He and his wife, Shirley, live in Crookston and have 3 children; Marcia, 17; Joshua, 12; and Brandon, 8. Jeff's hobbies include camping, fishing, walking and biking. He has also been a Girl Scout

volunteer for 10 years and a Boy Scout volunteer for 6 years.

Welcome to the staff, Jeff.



Troy Gullekson is back! Troy was originally hired in 1988 as an assistant farm animal attendant on the dairy research project under the leadership of George Marx. Troy was laid off in 1989 and through resignations and relocations, he was recalled in August as an asst. farm animal attendant in the beef and sheep dept. under the leadership of Harvey Windels.

Troy has previously worked in construction, as a farm laborer and a self-employed dairy farmer.

Troy and his wife, Michelle, live in rural Fertile with their son, Timothy, 1 1/2.

Welcome back, Troy.



Milan Samshal, the "new" custodial engineer joined our staff in July 1990.

Although Milan is new to us, he has been employed at the College since October 1970. Milan was originally hired as the bus driver between the College and Crookston. When the bus was discontinued, Milan worked on the grounds crew with Bob Jeska and Curtiss Rude and later moved to a building caretaker position in Dowell Hall. Milan has been getting the building "spruced

up" as we were without a custodian for about 2 months.

Milan and his wife, LaVern, reside in Crookston. They have three children and 10 grandchildren. Milan's hobbies include camping and traveling.

Welcome to the staff, Milan.

There are two new people working in the Agronomy Department under the leadership of John Wiersma.

Robert Bouvette, Jr. was hired as a research plot technician on the soybean project. Bob graduated from UMC in May 1990 with a degree in agronomy. Bob worked in construction and as a farm laborer before attending UMC. Bob commutes from Mentor each day. He and his wife, Monica, have two children, Melissa, 10 and Joshua, 6.



Susan Laymon, a 1990 graduate of UMC in agronomy, was hired as a research plot technician on the soybean project last May. She is originally from Red Lake Falls. She spent last summer working for Control at Fisher. Sue and her husband, Bruce, live at Viking, and she commutes to Crookston each day. Sue's interests include swimming, walking, hunting and fishing.

Welcome to the staff, Bob and Sue.



NEW FOOT BATH INSTALLED IN DAIRY BARN

George D. Marx

Conventional foot baths contain a liquid solution but the Northwest Experiment Station dairy cows are utilizing a dry powder foot bath. This is a new technique to help keep the cow's feet healthy and is much like the dry medicated talcum powder foot baths sometimes used in gymnasiums.

The dry material used in this case, however, is a mixture of 19 parts lime (calcium carbonate) and 1 part copper sulfate pentahydrate. The maximum strength can be doubled to 90% lime and 10% copper sulfate for more severe foot problems using 100 pounds total material in the foot pan. Conventional water baths traditionally contain 5 to 10% copper sulfate. Sometimes a 2% formalin solution is used as a substitute.

Dry foot baths have an advantage in cold areas or with freezing conditions where the animals exit directly outside or into a cold free stall barn from the milking parlor with wet feet. In many situations it is also more convenient with less spillage and tracking. Also, this precludes the possibility of animals drinking the solution. The foot bath is located in the return alley of the milking parlor which forces all animals to walk through it and is pulled out of the way or covered during the time the parlor is washed down after each milking.

The foot pan is of fiberglass construction and is surrounded by a two-inch thick wood frame. The outside diameter is 76 inches long, 40 inches wide and 3 1/2 inches high. The size can be varied to fit the width of an alley way, but needs to be at least six feet long so that cows will not try to jump over it. Foot baths can be built out of wood or concrete, and equipped with a removable plug for periodic draining. Animals are reluctant to cross the foot bath at first, but take it in stride after a few crossings. An idea used in some wet baths incorporates two foot baths, the first one containing only water to help wash off the feet before the cow steps into the copper sulfate solution and reduces the contamination and number of changes required before replacing the contents.

Healthy feet are important in maintaining high milk production. A cow's hoof will normally grow about 1/4-inch every month. To help maintain healthy feet, the excess toe and sole growth should be trimmed away periodically when needed. New concrete can also be damaging to feet as it is very abrasive and can wear down the hoof excessively, leaving the foot open to possible infection. In many cases, lameness, foot rot and foot infections can be reduced substantially with a foot bath and can also serve as a preventative for potential foot problems.



DR. GEORGE MARX ELECTED PRESIDENT OF RRVWS

Dr. George Marx, Northwest Experiment Station dairy scientist, was elected president of the Red River Valley Winter Shows, Crookston, at their annual meeting in June.

Marx is well qualified to preside over the Board of Managers for the next two years as he has assisted with dairy and youth activities for 27 years. He has been a member of the Board of Managers for five years, and most recently held the positions of first and second vice president. He is also chairman of the Education Seminars of the Winter Shows.

"The Winter Shows has undergone a thorough evaluation study in the past years," Marx noted, "the Future Project Plan is the blueprint for service to the area in the future. We plan to increase involvement of counties, cities and community organizations in our future offerings. The network of volunteers from all over the area that serves the Winter Shows is the key to survival and growth in the future."

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Issued by

THE UNIVERSITY OF MINNESOTA
NORTHWEST EXPERIMENT STATION
Crookston, Minnesota 56716

Patti Malme, Associate Editor

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