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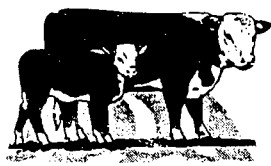
February is Cow/Calf Management Days

John Hall, Animal Scientist

Cow/calf management workshops will replace cow/calf days this year. A new twist to the workshops should make them better than ever. As in the past, these workshops will be held at several locations across the state. However, this year each program will be slightly different at each location. We wanted to try to customize the programs for each area of the state. Local coordinators and/or advisory panels assisted in choosing the local program. This will avoid the problem of speakers advertised not being present at a location or attendees having to see a video rather than interact with the speakers. If a speaker is advertised at your location, that is who you will get (unless snowdrifts keep us all away!). The basic program will be similar at all locations. I hope to see you at one of these meetings.

* * * *

The program in Grand Rapids, 6 p.m., at the Sawmill Inn (Hwy 169 South) will be:



- Preparing for the Next Cycle - Alfredo DiCostanzo, UM, St. Paul
- Raising and Managing Replacement Heifers - John Hall, UM NCES, Grand Rapids
- Managing for the Sale - Jon Seeger, Pfizer Animal Health
- New Forage Variety Update - Russ Mathison, UM NCES, Grand Rapids
- Winter and Summer Feeding Strategies - Alfredo DiCostanzo and John Hall

1997 Dates and Locations of Cow/Calf Management Days*

February 10	Glenwood	10:00 a.m.	Contact Bill Zimmerman 320/589-7423 or Dale Carter 320/239-4962.
February 11	Staples McIntosh	10:00 a.m. 6:30 p.m.	Contact Jim Carlson 320/632-0161. Contact Vince Cary 218/563-3465.
February 12	Grand Rapids	6:00 p.m.	Contact Dan Brown 218/327-4490.
February 22	Hinckley	9:00 a.m.	Contact Steve Drazkowski 320/384-6156.
February 25	Pipestone	1:00 p.m.	Contact Philip Berg 507/825-5416.
February 26	Rushford	10:00 a.m.	Contact Jerry Tesmer 507/765-4512.

* One registration fee per farm will be charged which includes a copy of the proceedings.

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

Community Access Computer Site Now Available at NCES

David L. Rabas, Station Head

Thanks to the Minnesota Extension Service and the North Central Research Fund a computer work station is now available to the public at the North Central Experiment Station. The computer, printer and work site located in the library of the NCES administration building will be available on a sign-up basis during regular station hours (8:00 a.m. to 4:30 p.m., Monday through Friday). Arrangements for one or two hour time blocks can be made by calling 218/327-4490.

The work station can be used for word processing, using Microsoft Word, and other computer applications including Internet access. NCES is especially excited about the opportunity to provide community access to the programs and publications of the Minnesota Extension Service and the University of Minnesota home page. From the University home page parents, prospective students and other community members will be able to find information about all University programs and procedures, including registration for classes by computer.

This computer site is one more small step toward providing access to the University of Minnesota for citizens throughout our state. We encourage and invite visitors to visit their community access site at NCES. Assistance will be available for those less familiar with computer or internet use.

A special thank you to Dan Erkkila for his assistance in obtaining and setting up our community access work station.



Public computer work site at NCES.

UV Monitoring Station at "South Farm"

James J. Boedicker, Agricultural Engineer

In November, 1996, an ultraviolet (UV) monitoring station was established at the North Central Experiment Station Beef and Forage Research Farm south of Grand Rapids. This monitoring station is part of a network of now over 20 such stations set up in a nationwide grid by the United States Department of Agriculture (USDA) for its UV Radiation Monitoring Program begun in 1993. The main objective of the program is to provide information to the agricultural community on geographic variations in UV radiation levels and how these levels vary over time. This information will help scientists better understand the relationships between changes in the world's ozone layer and resulting changes in UV levels and, in turn, the effects of these changes on agricultural systems.

As many readers are no doubt aware, concern has risen in recent years over increasing UV radiation caused by ozone depletion. The problem most often mentioned is the increased risk of skin cancer in humans. Effects of elevated UV levels on plants and animals are not yet well understood.

We all live in a "sea" of electromagnetic radiation that hits us from all directions. This radiation consists of rays covering a wide spectrum of wavelengths varying from gamma rays (less than a billionth of an inch long) to radio waves (several miles). UV radiation consists of rays within a particular wavelength band just below that of visible light. While UV

radiation can be harmful to body tissues, it has many beneficial uses as well.



UV Monitoring Station

The U of M monitoring site was selected for its location within the nationwide grid and the willingness of this station to cooperate with the USDA in providing and maintaining the site. Other important siting considerations were an "un-obstructed" view of the skies in all directions, a close proximity to telephone lines

and a source of electrical power.

The monitoring station (see Figure) has three principle monitoring instruments. One senses seven different wavelengths within and above the visible spectrum and also serves as a data logging and communications system for the other instruments. Another senses total UV radiation over a portion of the UV band. The third senses seven specific UV wavelengths. Other instruments sense air temperature, relative humidity and presence or absence of snow on the ground. The instruments record continuously with data being stored in the data logger. Every night the station is automatically called by phone from a USDA facility at Colorado State University in Fort Collins and the data accumulated over the previous 24 hours is transferred to a computer there. Data is then suitably processed and added to the growing body of information describing UV radiation patterns over time for the entire country.

Although the nationwide UV monitoring program was initially spurred by agriculture and forestry interests, the USDA reports that their information is already finding use in other sectors, including medical research. We at the North Central Experiment Station are pleased to have the opportunity to cooperate with the USDA in this extremely important program.

* * *

New Berry Cultivars for 1997

David Wildung, Horticulturist and Jim Luby, Dept. of Hort Science-St. Paul

The past year has been especially exciting for the small fruit breeding program with the release of three new cultivars and a fourth scheduled for release in the near future. Each one promises to be an excellent addition for Minnesota commercial berry farmers. These releases are a cumulation of many years of evaluation at testing sites at Grand Rapids, Becker, Excelsior, Morris and Staples. Since we get many requests on the status and characteristics of these cultivars, we thought it would be useful to review each one with you.

Polaris (MN 408) blueberry is an early-season selection that produces very firm berries of moderate size with a balanced and highly aromatic flavor and light blue color. It was selected at Elk River, MN in 1972 from the cross B15 x Bluetta. B15 is from a cross between the USDA selection G65 and 'Ashworth', a selection from the wild in northern New York.

Polaris has been tested in single plot observation trials at Becker, Grand Rapids and Staples from 1983 through 1996 and in replicated yield trials at Grand Rapids and Becker planted in 1984. Polaris has been similar to Northblue in yield. Average berry weight has been 1.3g at Becker and 1.6g at Grand Rapids. Polaris is an upright plant reaching about 4 feet in height and spread. It is slightly smaller than Bluetta and taller and more spreading than Northblue. Polaris is highly self-unfruitful and should be planted with another blueberry cultivar. Polaris was also planted in 1992 in upland soil sites in East Lansing, MI, Wooster, OH and State College, PA where it was among the hardiest of some 50 selections and cultivars following the winter of 1993-94. Polaris blooms with Bluetta and about five days earlier than Bluecrop. The fruit have a moderately small scar, are lighter blue in color than Northblue and similar to Jersey and Patriot. The flavor intensity is similar to Spartan and more intense than Bluecrop, Elliot, Jersey and Northblue. It is the earliest maturing Minnesota cultivar released.

Chippewa (MN 393) is a productive midseason selection that produces firm, large berries with a balanced flavor and very light blue color. It was selected in 1972 at Elk River, MN from the cross B18A x US 3, made in 1967. B18A was

selected from a cross between the highbush selection G65 from the USDA breeding program and 'Ashworth'. US 3, also from the USDA breeding program, was selected from a cross between the highbush cultivar 'Dixi' and Michigan Lowbush No. 1, a wild blueberry selection from central Michigan.

Chippewa has been tested in single plot observation trials in Minnesota at Becker, Grand Rapids and Staples from 1983 through 1996 and in replicated yield trials at Becker and Grand Rapids planted in 1984. In the yield trials, productivity of Chippewa has been comparable or slightly better than Northblue at Grand Rapids and Becker. Average berry weight of Chippewa is 20 percent lower than Northblue at Becker and 10 percent higher at Grand Rapids. The berries are firm and sweet. They are less acidic in flavor compared to Northblue. Chippewa has a more upright growth habit than Northblue. It should be a useful addition to Northblue in commercial planting in cold regions, as well as in residential plantings and gardens. Height of the mature plant is about 4 feet at Becker. Chippewa is somewhat self-fruitful but, like most cultivars will benefit from cross pollination with another blueberry cultivar to obtain optimum fruit set and size.

Polaris and Chippewa are both available through nurseries who have been cooperating with the Minnesota Nurserymen's Research Corporation program on our previous cultivars (e.g. Northblue, Northcountry, St. Cloud). Each is available from: •Bailey's Nursery-Newport, MN (612/459-9744); •Briggs Nursery-Olympia, WA (206/352-5442); •DeGrandchamp's Nursery-South Haven, MI (616/637-3915); •Fall Creek Farm & Nursery-Lowell, OR (503/937-2973).

Winona™ (MNUS 210) strawberry is the first cultivar released from the cooperative USDA-University of Minnesota strawberry breeding program. It was developed from a cross of Earliglow x MNUS 52 (Lateglow x MDUS 4616). It is a late-season cultivar in time of ripening and has large fruit and high yield in Minnesota tests. We anticipate that it can serve as a replacement for Blomidon which had become quite popular in this region before it was afflicted with June Yellows. Winona™ is resistant to five

common eastern US races of the pathogen causing red stele and also has shown good tolerance to black root rot. The foliage has been clean with respect to leaf spot, leaf scorch, leaf blight and powdery mildew in Minnesota trials. The fruit is a bright orange-red color with a conical to conic-wedge shape. The flesh is also orange-red and smooth and creamy in texture. The flavor is moderately intense with classic strawberry flavors and, sometimes a hint of peach. The flesh is very firm. The berry skin has been sufficiently tough under most conditions but skin breakdown has been observed during very wet and humid seasons.

Winona™ is available in good numbers for 1997 planting from: •Brittingham Nursery-Salisbury, MD (410/749-5153); •Dairy Farms-Decatur, MI (616/782-7131); •Krohne Plant Farms-Dowagiac, MI (616/424-5423); •Indiana Plant Farms-Huntington, IN (800/295-2226); •Nourse Farms-South Deerfield, MA (413/665-2658).

Many of you have been asking us about a second strawberry release, **Mesabi (MNUS 248)** which has been very productive at all of your trial sites. It has been virus indexed and released to nurseries who are currently propagating it. Unfortunately it will not be available in good numbers until the 1999 season. It will be sold through the same nursery sources as Winona™ so you should check with them about its future availability.

As mentioned above all four of these cultivars (including Mesabi) should be excellent additions to your berry farm operations. We anticipate that there will be additional new superior strawberry and blueberry releases in the future from our program. One good way for you to keep up on the performance of these and other new cultivar releases is to study our cultivar trial reports. These results are available for \$3.00 from our office (see address on page 4). This information will enable you to see how all blueberry and strawberry cultivars perform at all Minnesota testing sites.

The University of Minnesota does not endorse any one nursery nor does it mean to discredit any distributors not listed here.

News from North Central

David L. Rabas

The snow is still four feet deep but we are already turning our thoughts to spring and the coming season. Before we do, we want to recognize the difficulty this winter has brought to our friends in western and west central Minnesota and wish them a better end to winter and a gentle and more favorable spring season.

Research planning, seed, fertilizer and chemical ordering and spring planting and grazing plans are underway even as we continue to be involved in meetings and other opportunities for sharing information with our customers. Greenhouses are being prepared for spring planting and collection of materials and data from winter greenhouse and laboratory research is on-going. A look at the January greenhouse heating bill (\$1,500+) is a reminder of how cold it has been.

Greenhouse maintenance and operations are expensive but our greenhouse helps us raise an additional generation of plants in breeding programs and allows us to maintain plant materials from the previous growing season. Much of our horticultural research is dependant on starting and maintaining plants in the greenhouse for use in our field experiments.

The North Central Research Fund Centennial Campaign has ended with contributions of about \$60,000. We are very pleased with the results of the campaign and want to thank the fund committee members and our many friends of North Central who contributed to the success of the campaign. A new campaign to raise funds to sustain and expand our horticulture research program is planned for this year. Friends of North Central who are interested in horticulture research

or gardening are invited to join in this campaign.

We have completed our building wiring and hardware purchases to permit all staff high speed access to the internet and other computer driven applications. As indicated in another article in this issue of the *Quarterly* we have created a community access computer work site. We hope all of you will feel welcome to visit our station and use your computer worksite to access the internet and the programs and information of the University of Minnesota. We hope you will consider this site as your open door to the University.

I look forward to seeing many of you at our spring research and outreach meetings. As we plan for spring 1997 let us hope it comes a bit earlier than spring came in 1996.

♥ Happy Valentines Day! ♥

Alumni News

All Class and Employee Reunion - July 19, 1997

Tom Carpenter

Happy New Year! Hope you are enjoying it. I didn't receive any suggestions on what you would like to do or see at our reunion July 19, so we have started putting together an open house at NCES.

For the morning hours, we contacted Minnesota Power for a tour of their Cohasset plant, K&K Stables for a team of horses to use for the tour of NCES with a horticulture stop in the garden. In the afternoon we are working on entertainment to be held

in the Davies Theater on the Itasca Community College campus. Our evening activities will be at the Sawmill Inn for dinner and musical entertainment. We are looking forward to it and hope you will join us for an enjoyable get together on the 19th of July. Registration forms and a letter with final details will be mailed in April to everyone that is on the Alumni mailing list.

Leonard Labonte wrote of the passing away of Leonard Truhn, class

of 1929. The funeral service was Monday, December 16 at Riverside United Methodist Church in Park Rapids.

Hope we will be able to enjoy an early and good Spring -- watch for reunion details in April!

Teacher at Farm School:
"How do you treat a pig with a sore throat?"
Little Lonny Ross:
"Apply oinkment!"

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