Central Minnesota Irrigators Corporation

JANUARY 2019 NEWSLETTER

INSIDE THIS ISSUE:

CMIC's 50th Annual Meeting

Thursday, January 24, 2019

Maslowski Wellness & Research Center

17 5th St SW
Wadena, MN 56482

Registration begins at 8:30 am

Accomplishments from 2018

Fund (2) educational projects focusing on water quality/precision agriculture

Develop a producer meeting that included the following topics:

- **2018 Tax Reform**
- **Timeline for Permitting Process**
- **Farm Transition Tax Credit**
- **Organic Farming Options**
- **Legislative Irrigation Issues Update**

Act as a collective voice with IAM and other agencies

If you have a topic that you would like to see discussed in a future newsletter please contact Keith Olander, CMIC Educational Advisor, Central Lakes College Ag Center Director at 1830 Airport Rd, Staples, MN 56479 or phone 1-218-894-5141 or email Keith.Olander@clcmn.edu If you are no longer interested in being on the CMIC mailing list please contact Keith at the above address with a subject of CMIC. Thank you for your input. Hope to see you on January 24th in Wadena.

CMIC Irrigation and Water Clinic
Tentative Schedule for January 24th

Central Minnesota Irrigators Corporation

8:30 a.m. Registration, Coffee & Visit with Exhibitors

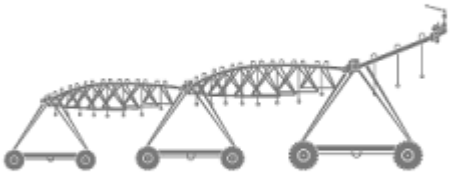
9:15 a.m. Welcome
Introduction of Board Members
Announcements

9:30 a.m.

10:00 a.m. Questions and Answers

10:15 a.m. Break

10:30 a.m. Drones in Agriculture
Hannah Barrett, Research Coordinator
Central Lakes College - Ag & Energy Center



10:50 a.m. Water Quality/Precision Ag Scholarship Presentation
Greenway High School

11:00 a.m. New Tax Laws
Erik Olson
Erik J Olson, CPA Ltd.

11:30 a.m. Exhibitor Introduction & Recognition

11:45 a.m. Lunch and Visit Exhibits

1:00 p.m. Central Minnesota Irrigators Corporation (CMIC) 50th Annual Meeting
50 Year History
Del Lecy, FBM Special Projects,
Central Lakes College-Ag & Energy Center

IAM and Legislative Issues
Alan Peterson, Irrigators Association of Minnesota President

Resolutions

Election of New Board Members & IAM Directors

2:00 p.m. **Door Prizes to include CASH $$$**

2019 IRRIGATION & NUTRIENT MANAGEMENT CLINIC

February 7, 2019 *(Thursday)* 8:30 am – 2:30 pm Thumper Pond Ottertail, MN

East Otter Tail Soil & Water Conservation District

Department of Agriculture

Come hear about the latest advancements and resources available for producers in Central Minnesota. *Lunch and Door Prizes Provided!*

SPEAKERS INCLUDE:
Nathan Wiese Local Corn Nitrogen Trial Results East Ottertail SWCD
Vasudha Sharma New MN Irrigation Specialist University of Minnesota-Extension
Brian Bohn Variable Rate Irrigation ROI Valley Irrigation
Aaron Daigh Strip Till Trials & Water Conservation North Dakota State University
Luke Stuewe MDA Groundwater Protection Activities Minnesota Department of Agriculture

CLEAN WATER LAND LEGACY

UNIVERSITY OF MINNESOTA EXTENSION

2019 Farm Transition and Estate Planning Educational Programming

Are you beginning the farm transition process? Or, have you started but don't know how to finish your plan? Join us this winter at a farm transition and estate planning program. Pick the format that best fits your needs, a family focused retreat or a one day workshop. Learn more and register at z.umn.edu/farmtransition (scroll down for registration info).

4:00 PM FRIDAY TO 4:00 PM SATURDAY 1.5 DAY RETREATS

The 1.5 day retreats will focus on both transferring the "financial business" ***and*** transferring the "management and responsibility" of the farm business. The workshop provides time for significant planning and discussion within the farm family. Individualized follow-up meetings will be offered to participants. This project is a **partnership of Minnesota State College and Universities and UMN Extension** with support from Minnesota Agricultural Education Leadership Council (MAELC) and the Minnesota Department of Agriculture (MDA), as well as collaboration from SCORE. Instructors are Jim Molenaar and Megan Roberts. **Pre-registration is required.** Retreats offered are:

- Willmar Ridgewater College, Building C, Door #36, Rooms C-28, 29, 35, 36, Friday February 22 from 4:00 pm – 8:30 pm and Saturday February 23 from 8:00 – 4:00 pm.
- Rochester Community and Technical College, Heintz Center, HBO 108 & 113, Friday March 8 from 4:00 pm – 8:30 pm and Saturday March 9 from 8:00 – 4:00 pm.
- Crookston University of Minnesota, Bede Ballroom, Friday March 22 from 4:00 pm – 8:30 pm and Saturday March 23 from 8:00 – 4:00 pm.

9:30 AM - 3:30 PM ONE DAY WORKSHOPS

The introductory one-day workshops will feature information on family communications, farm goal setting, business structures, mechanisms for transition, estate/gift taxes, mechanisms for inheritance, and basic concepts for retirement planning. Participants will also briefly learn about the FBM program and SCORE mentoring. The workshops will present complimentary content to the three 1.5 day retreats that are being offered. This project is **a partnership of Minnesota State College and Universities and UMN Extension** with support from the Minnesota Department of Agriculture (MDA) and collaboration with SCORE. Instructors are from Extension's Ag Business Management Team. **Pre-registration is required.** For a complete list of one-day workshops see the following page.

QUESTIONS OR COMMENTS?

Send a message to Megan Roberts at meganr@umn.edu.

Soil-water basics for irrigation scheduling

blog-crop-news.extension.umn.edu/2019/01/soil-water-basics-for-irrigation.html

By Vasudha Sharma- Extension Irrigation Specialist

During the past few years, irrigated agriculture has increased significantly in Minnesota. Most of the irrigation in the state happens in the glacial outwash region where irrigation makes this region highly productive because of low water holding capacities and rapid drainage, however this is where most people depend on groundwater for their drinking water supply. Contamination of groundwater due to agricultural nitrate leaching and decreased recharge to lakes and streams because of high groundwater withdrawals for irrigation are two critical environmental problems in the central sands region of Minnesota.

Strategic irrigation management can address the complex challenges we face in the central sands region. Irrigation management enables the irrigator to apply the right amount of water at the right time, which increases irrigation efficiency and reduces nitrate-N leaching. However, proper irrigation management is a difficult task. Over-irrigation wastes water, causes nutrients to leach from the rooting zone, contaminates ground water, increases energy and labor costs, and reduces soil aeration. On the other hand, under irrigation creates plant water stress and reduces yield.

Understanding terms and principles

Irrigation scheduling is a practical tool for preventing the over-application of water while optimizing crop growth. Scheduling can be done by timely monitoring of the moisture content of the soil directly using soil moisture sensors, and indirectly by estimating crop water use of different crops (evapotranspiration) to model soil water depletion. A better understanding of the basic principles, definitions, and terms behind soil-water-plant relationship is fundamental and can aid communication between agricultural producers, extension educators, crop consultants, agency personnel and researchers.

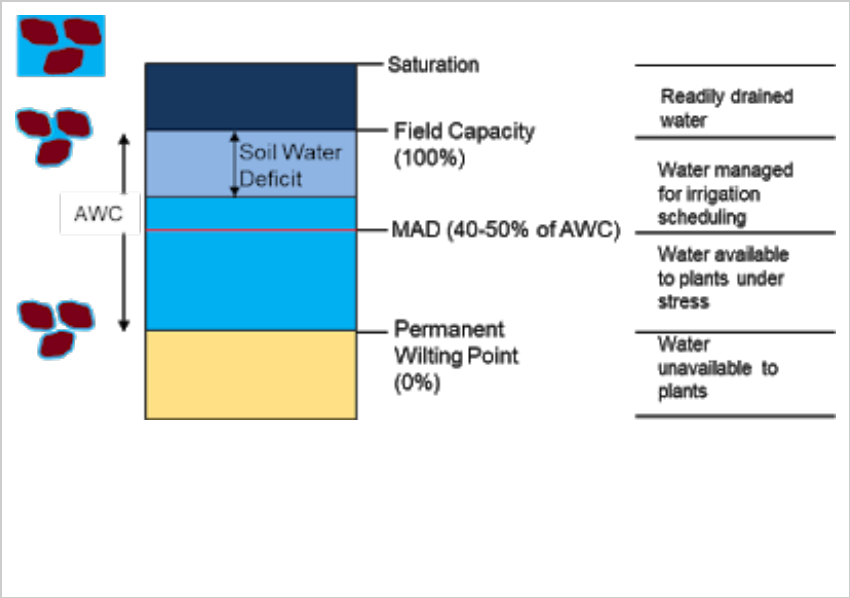


Figure 1. Soil water reservoir components.

Soil is a plant's water reservoir. Understanding basic terms associated with the soil water reservoir (Figure 1) is vital for determining the amount and timing of irrigation.

Saturation – The water which readily percolates or drains out from the root zone by gravitational force. Also called gravitational water.

Field capacity – It is the amount of water that remains in the soil after all the excess water at saturation has been drained out. When the soil is allowed to drain for approximately 24 hours after saturation, field capacity is reached.

Permanent wilting point – When plants uptake all the available water for a given soil, soil dries to a point that it cannot supply any water to keep plants from dying.

Available water holding capacity (AWC) –The amount of water that soil can store to be extracted by the plant. It is the water held between field capacity and permanent wilting point.

Management allowable depletion (MAD) –The soil water content where crops begin to experience water stress. Usually, most of the crop do not experience water stress before 40-60% of AWC has removed.

Soil water deficit –The amount of water removed by the crop from active rooting depth.

Soil type differences

Different soil types have different AWC. For example, as shown in Figure 2, coarse soils, such as sands and sandy loam, have relatively large pores when compared to a finer textured soil such as clay. Fine soils, like clays or clay loams, have small mineral particles and very small pores. Having a larger number of small pores means that a fine textured soil can hold more water than a coarse textured soil. For irrigation scheduling, whenever the soil water deficit is equal to or higher than MAD, irrigation should be triggered. Irrigation amounts should be

refilling the rooting zone to approximately 80% AWC, leaving some room for possible precipitation.

The information about the AWC for your field can be obtained from the NRCS web soil survey

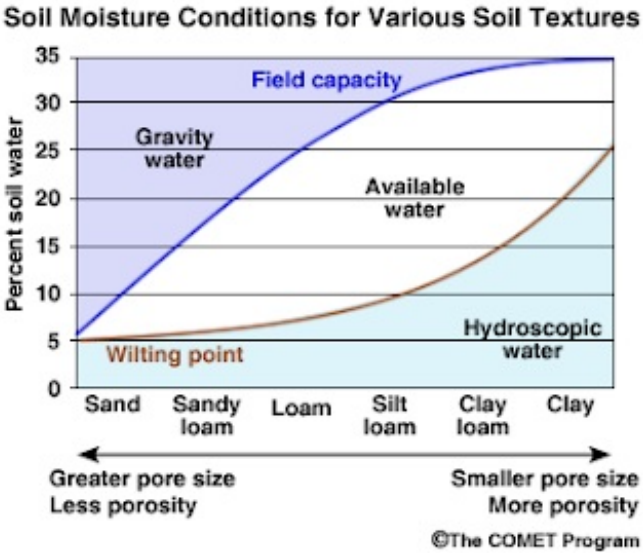


Figure 2. Soil moisture conditions for various soil textures. Ref: The COMET program, University Corporation of atmospheric research

(https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm) or testing in the field can also be done. In general, coarse textured soils can have roughly 0.5 inches of available water per foot of soil depth and silt loam soils have roughly 2 inches of available water per foot of depth.

Soil water deficit can be monitored directly using soil moisture sensors or indirectly by estimating crop water use (evapotranspiration) and using water-balance equation.

Field trials for 2019

Dr. Vasudha Sharma will be working with the Pope SWCD on the establishment of field trials to compare various soil and climate based as well as crop growth models based irrigation management strategies and to test the performance of various soil moisture sensors in coarse textured soils. This research will answer as to which irrigation method is best suited for coarse textured soils of this region that reduces nitrogen leaching while maintaining the high yields.

The other field research trials will be focused on developing and evaluating deficit irrigation management strategies and developing crop coefficients for various cropping systems in Minnesota that will aid in better irrigation management. The upgraded variable rate irrigation system at the Rosholt farm provides tremendous opportunities for irrigation research in this region. In addition to Rosholt Farm, eight new sprinkler irrigation systems at the U of M's Sand Plain Research Farm in Becker provides a tremendous opportunity for irrigation related research in the Sand Plain area.

For more information, please feel free to contact Dr. Vasudha Sharma at vasudha@umn.edu.

Register Now for “Strategic Farming-Maximizing Return on Investment” Workshops

blog-crop-news.extension.umn.edu/2019/01/register-now-for-strategic-farming.html

By Lizabeth Stahl, Extension Educator-Crops, and Seth Naeve, Soybean Extension Specialist

In crop production, what is the likelihood of seeing a positive economic return from a foliar fungicide application or a “build and maintain” soil fertility program? Which strategies are worth the time and money when managing soybean aphid? What seed and technology trait decisions are the most important for your operation?

Hear the latest University of Minnesota research and information addressing these questions and more at the 2019 “Strategic Farming – Maximizing Return on Investment” workshops. Not only will key cost factors in crop budgets be reviewed, but tips will also be provided to help you evaluate ag research and marketing claims in order to make the best management decisions on the farm.

Registration is now open at **z.umn.edu/strategic-farming** for these workshops sponsored by University of Minnesota Extension and the Minnesota Soybean Research and Promotion Council. **Registration at least 7 days prior to each event is strongly encouraged** in order to guarantee a seat, handouts, and a meal.

Locations include:

Alexandria, Broadway Ballroom Event Center, January 22
Wheaton, American Legion, February 5
Paynesville, American Legion, February 6
Fairmont, Knights of Columbus, February 14
Austin, Riverland Community College, Austin West Bldg, Room 237/240, February 20 Slayton, 4-H Bldg, Murray County Fairgrounds, February 21
Owatonna, Community Center, Steele County Fairgrounds, February 26
McIntosh, McIntosh Community Center, February 26
North Mankato, South Central College, Heritage Hall, February 27
Montevideo,American Legion, March 7
Hutchinson, Hutchinson Event Center, March 12

All programs will run from 9:00 am to 12:30 pm (except for the Owatonna program which will run from 9:00 am to 2:00 pm), and include lunch. Private Pesticide Applicator Recertification will run concurrently at the Alexandria, Fairmont, and McIntosh locations where attendance until 2:30 pm is required to receive recertification. Bonus crop production topics will be presented at the Owatonna location from 12:30-2:00 pm. The Small Grains Program will follow from 12:30 – 4:00 pm at the Slayton location.

CLC CENTRAL LAKES COLLEGE

CLC Ag & Energy Center
1830 Airport Rd
Staples, MN 56479

ADDRESS CORRECTION REQUESTED

CMIC NEWS

Central Minnesota Irrigators Corporation Irrigation Clinic and 50th Annual Meeting

Thursday, January 24, 2019
Maslowski Wellness & Research Center
17 5th St SW, Wadena, MN 56482

Registration begins at 8:30 am

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Irrigation Association of Minnesota
45th Annual IAM Convention
Thursday, February 21, 2019
Community Center at Freeport, Minnesota
Located just south of the Freeport
Exit along Interstate 94 and Freeport city water tower
8:30 to 4:00

Irrigators Association iam of Minnesota Since 1975
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