

Heat Wave!

By Monroe S. Miller

There are some, me among them, who say Wisconsin has five seasons - spring, summer, fall, winter and Christmas. I hope your Christmas season was as joyous as ours was. My only regret is that the Christmas season, the real Christmas season, is so short.

In fact, it took until Christmas for any semblance of the winter season to arrive, making for the longest autumn for golf and golf course work in my career. It was awesome if you had any construction projects on your menu.

It would be nice to take credit for project productivity, but, alas, it was a matter of the luck that comes with good weather. In our case, we started a job on our fifth hole on the Monday before Thanksgiving, paved on December 3rd, and finished sod work on December 4th. And it nearly reached 70 degrees F on Sunday the 6th. In Madison, Wisconsin!

Over a ten day period in late November and early December, seven high temperature records were set. And the golfers played on in what was the longest season in memory. Remember, after all, it began for many of us in March. We were one to two weeks early for a start and it extended at least that many days longer than normal.

If our sense is that it was a warmer than normal year, the weather statistics confirm it. For the 35 weeks from early April through late November, Wisconsin was above normal 25 times, near normal four times and below normal six times. Spring was consistently two to nine degrees above normal, and summer temps were at

or above normal except for early June and early August/ Autumn followed the trend.

In terms of precipitation, the story was one of surplus in central and southern Wisconsin and shortages up north. Our town, at year's end, was about nine inches above the norm. The odd thing is, for the growing season, the state wide

MONTHLY RAINFALL: 1998 GROWING SEASON AND NORMAL

District	April 1/		May 1/		June 1/		July 1/		August 1/		September 1/	
	1998	Normal	1998	Normal	1998	Normal	1998	Normal	1998	Normal	1998	Normal
	Inches											
NW	1.60	2.43	3.38	3.43	4.83	4.06	1.85	3.92	3.69	4.32	2.37	4.01
NC	1.41	2.40	3.11	3.41	5.36	3.92	1.25	3.76	2.71	4.32	2.44	4.17
NE	1.87	2.59	2.43	3.41	4.96	3.72	1.10	3.38	2.88	3.74	2.86	3.95
WC	2.09	2.89	4.34	3.69	7.86	4.10	2.06	4.15	5.87	4.18	1.33	4.07
C	2.18	2.78	3.31	3.59	7.91	3.70	1.26	3.73	4.35	3.90	2.30	4.11
EC	2.74	2.71	2.30	3.02	5.25	3.39	1.31	3.14	4.47	3.64	3.12	3.75
SW	3.67	3.09	4.22	3.41	8.84	3.84	2.84	3.85	5.87	4.08	2.49	3.93
SC	4.69	3.07	4.70	3.16	6.68	3.77	2.31	3.73	4.69	3.90	2.42	3.92
SE	4.16	3.22	3.54	2.94	4.36	3.49	2.29	3.72	4.95	3.80	2.00	3.77
STATE	2.40	2.71	3.46	3.38	6.19	3.82	1.74	3.74	4.19	4.04	2.36	4.00

1/Preliminary estimates, 1998. Source: State Climatologist.

MONTHLY TEMPERATURES: 1998 GROWING SEASON AND NORMAL

District	April 1/		May 1/		June 1/		July 1/		August 1/		September 1/	
	1998	Normal	1998	Normal	1998	Normal	1998	Normal	1998	Normal	1998	Normal
	Degrees Fahrenheit											
NW	46.3	41.8	59.9	53.7	61.5	62.8	68.5	68.4	65.7	61.5	56.4	56.4
NC	45.1	40.7	58.4	53.0	60.8	61.7	66.6	66.9	66.5	64.1	59.7	55.3
NE	45.6	41.4	58.8	53.4	61.7	62.3	67.1	67.5	67.3	64.7	61.0	56.0
WC	49.8	45.3	63.2	57.2	64.4	66.4	71.4	71.2	69.9	68.3	65.1	59.2
C	48.1	44.5	62.2	56.2	64.6	65.4	70.5	70.2	69.4	67.3	63.7	58.7
EC	45.8	42.9	59.9	54.3	64.7	63.9	70.4	69.7	69.9	67.7	64.1	59.7
SW	48.4	46.4	62.4	58.0	65.5	67.2	70.9	71.8	70.2	69.1	65.0	60.6
SC	47.9	46.2	62.6	57.7	66.5	67.1	71.6	71.5	71.1	68.8	65.3	60.7
SE	46.8	45.1	60.9	56.1	65.9	65.9	71.2	71.2	71.5	69.3	66.1	61.5
STATE	47.0	43.4	60.7	55.2	63.4	64.3	69.4	69.4	68.9	65.8	62.9	58.1

1/Preliminary estimates, 1997. * Normal is defined as the 30-year average for the years 1961-90. Source: State Climatologist.

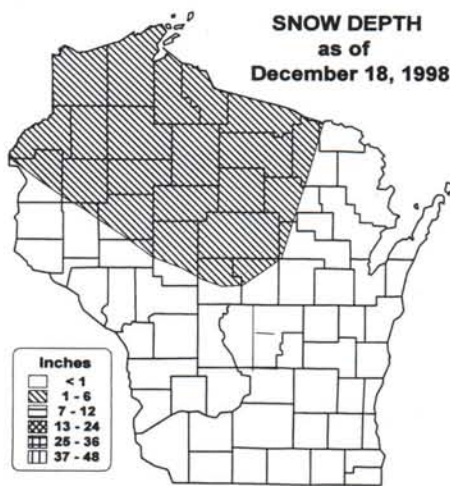
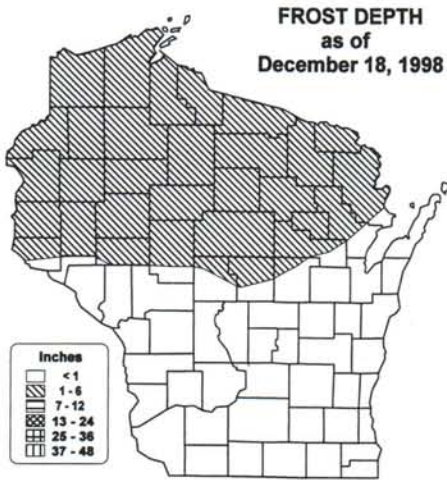
COMPARATIVE TEMPERATURE AND PRECIPITATION DATA

District	Average Temperature						Total Precipitation					
	June - September						April - September					
	Normal	1994	1995	1996	1997	1998 1/	Normal	1994	1995	1996	1997	1998 1/
	Degrees Fahrenheit						Inches					
NW	63.9	64.1	65.2	63.2	63.2	65.0	22.2	23.1	23.4	22.6	21.9	17.7
NC	62.6	62.6	64.4	61.8	61.9	63.5	22.0	22.9	22.3	21.1	23.1	16.3
NE	63.7	63.4	65.2	62.5	62.5	64.3	20.8	22.5	20.0	21.9	20.9	16.1
WC	66.9	66.4	69.1	66.2	67.1	67.7	23.1	27.4	22.1	17.6	24.0	23.6
C	65.7	66.6	68.6	65.7	65.7	67.1	21.8	25.5	21.7	19.1	21.2	21.3
EC	65.7	65.8	68.6	65.3	65.1	67.3	19.7	19.5	16.7	18.2	20.8	19.2
SW	67.8	66.9	69.5	66.4	66.7	67.9	22.2	24.8	21.7	19.5	23.3	27.9
SC	67.9	67.4	69.7	66.5	66.5	68.7	21.6	23.0	22.4	21.6	20.4	25.5
SE	67.6	67.5	70.1	66.8	66.5	68.7	20.9	17.8	21.0	21.5	20.6	21.3
STATE	65.3	65.2	66.8	64.4	64.6	66.2	21.7	23.4	21.6	20.5	22.1	20.3

1/Preliminary estimates, 1998. Source: State Climatologist

Wisconsin Weather						
Week ending 1/	Temperature 2/			Precipitation 3/		
	High	Low	Avg.	For the week	Since Nov. 30	
	Degrees F			Inches		
Dec. 13	52	14	32	0.1	0.4	
Dec. 20	50	9	29	0.1	0.5	

1/As of 7:00 a.m. 2/Temperatures represent the state average high, low, and average for the week. 3/Liquid equivalent. T=trace.



precipitation was 24.5 inches, which is exactly the same as the 30-year norm.

Stranger still, despite ample moisture around the parts I work, digger reports were of dry soil conditions in early winter to surprising depths.

Details and summaries of our 1998 weather, as recorded by the Wisconsin Agricultural Statistics Service, are presented here for posterity.

As every course superintendent knows, potassium is an essential element in plant growth. Potassium and nitrogen are the elements a solid fertility program on most Wisconsin golf course soils is built around.

Two UW - Madison researchers have now shown that plants can create an electric potential of almost a quarter of a volt across a cell membrane. That differential allows root cells to draw the positively charged potassium ions from soil solution into the negatively charged cells. The K⁺ cations move through special membrane proteins called potassium channels.

The research by Dr. Mike Sussman of the CALS Horticulture Department and Dr. Edgar Spalding of the Botany Department and their grad researchers Rebecca

Hirsch and Bryan Lewis was reported in SCIENCE magazine.

The electrical gradient they measured is several times greater than the one in animal and human nerves, which have been extensively studied. It is sufficient enough to allow plants to take up and concentrate potassium from soils that have relatively small amounts of it.

Dr. Sussman has been busy. He

and another UW - Madison molecular biologist were granted \$1.8 million over three years to help develop a system to rapidly identify the function of genes specific to plants. The grant was one of 20 awarded by the National Science Foundation in the first year of their plant genome initiative.

There are so many exciting things going on at your land grant university, projects that will directly benefit those of us in the field.

Americans had the chance to witness history right before Christmas when the House of Representatives voted to Impeach W.J. Clinton. Normal people would have been so ashamed and embarrassed that they would have hidden under a rock or in some way stayed out of sight. Not Willie. He held a pep rally on the White House lawn right after the vote; "incredible" doesn't begin to express the man's gall.

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Now the Senate decides if he stays or goes, another rare event that will make history. Whatever his fate, he did it to himself, a fact he still refuses to recognize. One thing is for certain - the country will handle the process just fine.

The most troubling thing for me was Clinton's decision to blast Iraq

the day previous to the impeachment vote. As a general rule, people don't believe a liar. And lots of Americans didn't believe the timing was a coincidence. There could be no clearer example of a reason why he should resign. Not that Al would be any better; he would not be. Resignation simply would be

best for the country. But Clinton will never put the country before himself.

As a result of this lousy experience with Bill Clinton and his excesses, I will nominate Cokie Roberts and Elizabeth Dole as our next president and vice president. We are ready for some smart, competent and trustworthy women as our leaders.

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The 14th Reinders Turf Conference, Equipment Show and Service Clinic is set for March 10 and 11, 1999. This conference will be bigger and better than ever before.

Exhibit space will be expanded (no, they are not moving out of the Waukesha Expo Center and, no, the Expo Center has not been expanded. You will have to attend to see how they have handled the expansion!). At this time, the speaker list is not finalized, but an impressive list of speakers has committed so far, including Dr. Joe Vargas who will be making his 14th appearance at Reinders Conference.

Mark you calendar for this traditional and exciting event.

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The Wander Springs Golf Course team from Greenleaf competed in the annual John Deere Championship Golf Tournament in Scottsdale, Arizona. Normally the warm weather in the southwest would feel good in mid-November, but the team left some pretty nice weather in Wisconsin. Clearly, their participation was a sacrifice!

Thirty-two teams from around the US and Canada played for the top spot. Our team, led by golf course superintendent and WGCSA member Mark Gorzlanzyk, acquitted themselves well and, presumably, enjoyed the experience. Congratulations.

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Jordon Sensibar has reported a \$515 donation to the O.J. Noer Turfgrass Research and Education

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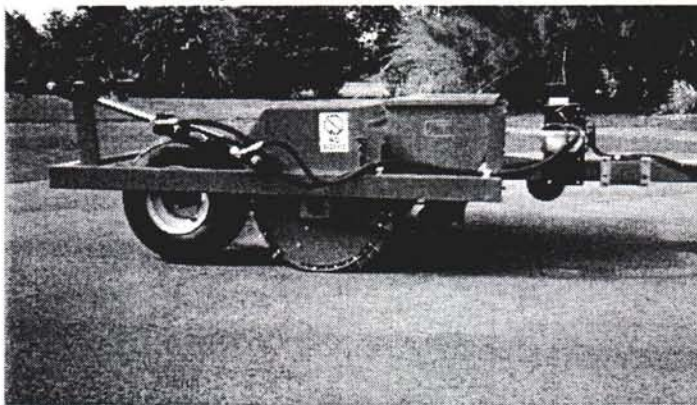
commercial landscaping and athletic fields as it mows, cleans and rolls in one pass. This new machine works exceptionally well in wet conditions. AERATE and SCARIFY with optional blades to eliminate moss and thatch.

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Wander Springs Golf Course, Greenleaf, WI
 Pictured from left to right: Mark Gorzlanzyk, Golf Course Superintendent; Mike Cisler, Golf Professional; Tom Thiesen, Club Manager; Robert Brandt, Club President; Scott Allsup, Distributor Representative

Facility. The gift came from a donation ProGreen Plus made for each case of Rubigan fungicide sold in 1998. They hope to sponsor a similar program next year.

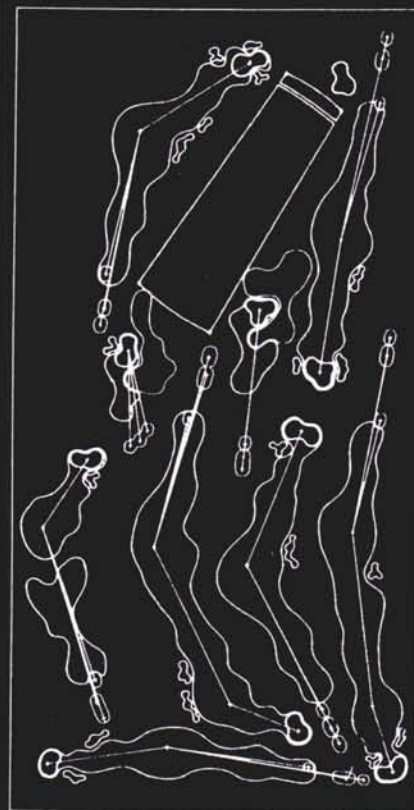
Thanks from ProGreen Plus to the following participants: Cedar Springs Golf Course, Deer Run Golf Course, Evansville Golf Club, Fox Valley Golf Club, H & H Fairway Enterprises, Heritage Reserve Development, Kujawa Enterprises, Inc., Lawn Doctor of New Berlin, Mequon Country

Club, Missing Links Golf Course, Rainbow Springs Golf Club, and Winagamie Golf Club.

We are near the time when departure for the GCSAA conference begins. Orlando is a good conference site, and everybody I have talked to is anxious to go. Include me in the excitement.

Travel safely, learn a lot and start thinking about opening day. It will be here too soon. 🌱

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