



Economic Considerations

By **Pat Norton**, Golf Course Superintendent, Nettle Creek Country Club

It seems that the older and more experienced I get, the more I realize that practically everything we do as golf course superintendents is based on economic considerations. Money, budget, finances, invoices, revenues, expenses, and cash flow are all now replacement key words for green speed, fertility, landscaping, and even more so are replacements for lofty terms such as capital improvements, long range or master planning! Now that golf courses nationwide, of all classes, are experiencing some degree of financial difficulty, the above statements are especially true.

Superintendents of established golf courses everywhere are having to make some very tough financial decisions within their operations, as are their respective golf professionals, club managers, general managers, and boards of directors.

The ongoing rumor mill this past summer revolved almost entirely on which golf courses were suffering from declining revenues due to lack of play. This translated into \$\$\$ or percentage points that courses were down as compared to the previous year...which translated into mid-year cost savings programs for entire golf course programs. Economic considerations jumped right up there when expenditures for the golf course, even though totally budgeted, came under more severe scrutiny. The written golf course budget became a threshold that could not be crossed...and in fact, the challenge was to see just how far under budget the monthly and yr-to-date figures could become!

The economic considerations

really became somewhat of a discipline game during the season. Lots and lots of 'saying no' to employees, suppliers, and myself...as I daily surveyed a golf course that needed or wanted this or that. As there is never a shortage of ideas for improving the looks or the playability of any golf course...it becomes difficult to hold your creative self in check! During normal times, there is a steady stream of improvements...and accompanying invoices and statements to fund them! During tougher times, things and ideas must be left to rot in the quest for cost savings.

After taking all of the economics and financial problems into account during 2002, this entire golf course operation tightened the belt. As detailed below, we spent \$25,000 less on fertilizers and chemicals...and a total of

\$50,000 less on the golf course than in 2001.

Fert&Chem 2000	\$74,500
Fert&Chem2001	\$75,300
Fert&Chem2002	\$50,000
Proposed Fert&Chem 2003	\$60,000
Final Budget Fert&Chem 2003	\$55,000

In other operational areas...golf, administration, bar&restaurant...we squeezed out another \$50,000 in expense savings for the year.

Wow! We saved \$100,000 as compared to last year! But, the top half of the income statement shows that total gross profit for food, bev, and golf was down \$128,000 compared to a year ago.

So, we are in effect about \$30,000 worse off this year than



Ed Witkowski
Mike Kozlowski

Full Line of Turf Products
Chemicals
Competitive Pricing
New Product Information
Satisfaction Guaranteed

805 Ela Avenue
Waterford, WI 53185
262-534-3334 • Fax 262-534-2990

last year. Not a very encouraging thought...until one realizes that at many courses the financial picture is much bleaker and economic considerations are much more severe! As a result of a very sluggish 2002, budget time for 2003 involved lots of economic considerations.

Initial budget 2003 discussions really frosted the cake when I began to realize that our austerity program during 2002 was somewhat underappreciated by ownership. There were, I must admit, many admissions during the year that we'd be in much worse shape if expenses across the board were at their normal level.

But, my impression was that ownership didn't really believe that conscious cost cutting decisions were made in '02...that Mother Nature, coincidence, or whoever was responsible for not spending as much money! The

comment was made, when I was defending a proposed very moderate \$60,000 level of Fert&Chem spending, that..."refraining from spending fert&chem \$\$\$ was probably not an intentional decision"!

To which I replied that it was all definitely, definitely, definitely...a series of intentional decisions to not spend money based on our lackluster financial performance!

Unfertilized roughs for three years running, higher tolerance to dollar spot than ever before, cheaper fertilizers, less fertilizers, less people, less hours, less projects, less trees planted...can add up to saving money. And, that's what we did. And that's what we had to do.

Fortunately, I still love to play golf, so it was still easy to see that the course was still pretty good...and people were enjoying themselves. And, at least at this privately owned public course,

golfers don't notice many of the flaws. I can't imagine the pressure of having to please people in a private club situation...after the operating budget gets slashed.

Overall though, our budget will still jump up a bit in order to fund equipment purchased in 2002. And though there's less money for fertilizer, we did purchase a John Deere Aercore 1500...which is a great machine. So, I am committed to improving these beat up roughs...among other things.

In the end, though, I had to give in...and agree to a Fert&Chem spending level of \$55,000...which will take care of the basics, but force more tough choices for the coming year.

Great!!! Save money...spend considerably less on fert&chem...only to realize that I'd just set myself a new benchmark. And, the malleable chorus was loud and clear that...in the opinion

COLUMBIA ParCar

Call for a free demonstration!
And to learn of our special WI course offers at
no cost or obligation!



Eagle Sponsor
of the Golf
Course Owners
of Wisconsin.

- Gas & Electric Golf Cars & Utility Vehicles
- New, Used and Reconditioned
- Full Sales and Service
- Additional Cars for Special Events
- Lease Financing Available

SALES & SERVICE

Madison, WI
(608) 249-6600

Reedsburg, WI
(608) 524-8888

(800) 222-4653



Proudly Manufactured By
Wisconsin Craftsmen

of the golf professional and the members...the course was better than ever in '02...and nobody except 'Particular Patrick' could even tell the difference in course quality!

I distinctly remember Roger Bell telling me years ago that cutting a budgeted amount will only give the honchos the impression that the lesser amount is acceptable...and that's exactly what I, and undoubtedly many other superintendents, have done with their own austerity measures!

But...is there any other choice? When confronted with less revenue, what possible other choice is there? Lots of guys just like us are out there doing exactly the same thing...making tough choices, spending less, and hoping for better days ahead.

Hey, at least this is a discussion of cutting costs on the course instead of cutting the manager's salary or benefits! It's pretty easy to refrain from spending if it means that I'm still employed with a salary and benefits package that's 21% of the entire golf course budget. I totally understand that fact, and that someday it may come to an end.

I do have a verbal agreement that if the course needs more attention/\$\$\$...we will not hesitate to spend the money and go over budget. This little agreement, however, needs to take into account the economic considerations that seem to run throughout this essay and the daily working lives of golf course managers everywhere.

When it comes right down to it...I'll do whatever is necessary to insure that this golf course holds together. In fact, in the face of this storm, the idea must be to find ways to do better financially in 2003.

Hey, how about a year or series of years in which the expenses are held down and revenues bust wide

open? In order for that to happen, some creative thinking needs to flow.

Instead of raising prices on greens fees, drinks, food, memberships, merchandise to create more revenue...and force higher prices on public golfers...how about holding the line or dropping prices a bit, especially on items like beer and concessions, which are notoriously high at public courses? Does it make sense to think that public golfers would truly appreciate and subsequently patronize the course that offers beer and food at bargain prices? It really gripes me to rip people off for \$2.50 per bottle or can of beer. Drop that price to \$1.50 for an everyday price, and I'll bet that golfers will come more often and stay longer after a round of golf.

Instead of relying on people to buy that same old annual membership/season pass, offer them ten or twenty round passes with a small discount for buying additional rounds.

And, instead of limiting golf outings to only a few days...take them

anytime! Send your idle assistant golf professionals out during the winter months to hunt and prospect for more outings...and give them commission incentives for doing a good job.

Widen the scope of the F&B operation...and quit relying only on golfers from May-October. Utilize the clubhouse more by insisting that F&B managers fill their calendar in the same manner that the golf professional fills his with golf outings!

There are economic considerations out there these days...but there's business out there also. Don't let the current economic considerations bury your golf course in pessimism. By any measure, making a few tough business decisions helps toughen any superintendent into more of a golf businessman.

Then...when it comes time for a little 'economic consideration' from your employer...you'll be in a great position to demand a little bit of 'economic consideration'.

Economically speaking, get the picture?? ♣

Golf Course Architecture
 Landscape Architecture
 Engineering
 Land Surveying
 Site Construction Management
 Site Maintenance
 Irrigation Design

RRR
 rettlr corporation
 167 S Lexington .. Spring Green, Wisconsin .. 53588
 Phone:608-588-7888 .. Fax:608-588-7887 .. Website:www.rettler.com

FFICK
 DESIGN



A Guy You Can Count On

By **Monroe S. Miller**, Golf Course Superintendent, Blackhawk Country Club

It was quite an honor for me to bestow quite an honor on Wayne Otto at the breakfast meeting at the Symposium last fall. I think I was asked because proximity gives me impartiality. Many of Wayne's friends in Milwaukee were simply too close to him and too fond of him to speak with the factual clarity required by an award like our WGCSA Distinguished Service Award. From my view a hundred miles away, for more than 30 years, I saw a man - a golf course superintendent - who could be counted on, regardless of the situation.

During his career, Otto embodied many many traits golf course superintendents all wish they had, me included. See if you recognize the same ones I have.

Wayne Otto's keen sense of observation rivals anyone's. I cannot count the times, in casual conversations or bull sessions, when he would comment on

something he'd noted. You could see those listening to him pause and consider what he was discussing. Especially perceptive were those thoughts about *Poa annua* and its prevalence and the most difficult aspects of its culture. He observed many things about growing turf on clay soils (Mequon gold, as he'd call it), various irrigation practices, TGRs, turfgrass fertility, and subtleties offered by golf's best architects over time. Honestly, he should write a book.

The perfect complement to his sharp sense of observation is Wayne's natural curiosity. Who do you know, other than Wayne Otto, who would jump the rope around a green at the Augusta National Golf Club during the Masters to cut the putting green turf with his pocket knife to see roots and root zone mix? And who, in the long history of the Wisconsin Golf Turf

Hunter
GOLF

Professional Irrigation System
Repairs, Renovations, New Construction



ONE CALL HANDLES IT ALL JOHN DEERE LANDSCAPES

You're working to keep your course 100 percent playable throughout the season. Now there's a new team member ready to provide the irrigation supplies, service and support you need to achieve that goal - John Deere Landscapes. With a nationwide network of branches and staff, John Deere Landscapes has the professional expertise and equipment to solve any site challenge. Call today: 800-642-3706.

- Irrigation Systems Featuring Hunter Golf** Reliable rotors, valves, central control systems, maintenance radios
 - Pump Stations** Customized for your course
 - Fountains and Landscape Lighting** AquaMaster and Oase fountains, Vista Professional Outdoor Lighting
 - BoardTronics Controller Board Repairs** Replace outdated Toro® and Rain Bird® controller boards: 888-855-9132
 - Direct Sales** Quantity shipments of landscape products and nursery stock: 866-880-9380
- More Than 220 Branches Nationwide



www.JohnDeereLandscapes.com

On-Site Consultation: 800-642-3706

Symposium, has asked more questions of guest speakers than Wayne Otto? And his questions usually cut to the bone of an issue. Good superintendents always have lots of questions.

It is obvious that much of the success Otto has had in his 40-year career comes from the fact that he is an excellent plantsman. He has a clear understanding of how the biological systems on a golf course work and how they can be manipulated to provide better conditions for golf. Someone once joked that "he must have chlorophyll in his blood veins." It actually was a high compliment for Wayne!

For me one of his strongest traits as a golf course superintendent is his ability as an innovator, from sand topdressing to Audubon Cooperative Sanctuary Program certification - the first in Wisconsin. Last winter Chad Grimm and I drove to the GCSAA conference in Orlando. We stopped at the World Golf Hall of Fame in St. Augustine. We toured the Hall of Fame and were startled to see the display, a thousand miles from Wisconsin, that told the story in photos and narrative, of Wayne's activities with the Audubon program. I was really proud of the guy and impressed by his humility. Many would have bragged and blown about such recognition; not Otto. We had to learn about it on our own faraway from home.

I am among those many who think there is something special about a person who (1) stays in our profession from start to finish, and (2) manages a 30-plus year run at the same golf club. It shows that he was at the top of his game everyday, that he is adaptable, and

that he is able to keep pace with change. There are not many individuals in this arena.

Wayne Otto is a natural leader and has generously shared that ability with us. He's held all the offices of the WGCSA, including the presidency in 1977 and 1978. He has served on GCSAA committees forever, exceeded in time only by his services on the Symposium committee. He has been a director of the Wisconsin Turfgrass Association. This prominence has earned the respect of the leaders in our business; GCSAA CEO Steve Mona came to Wisconsin to be part of Wayne's retirement party at Pine Hills during the Symposium last fall.

Everyone who even knows him even slightly will tell you that Otto is open, honest and helpful. He has had a positive affect on many young golf course superintendents. And his contemporaries also seek his opinion and advice when faced with tough issues. He has no secrets.

Wayne Otto is the real deal, affable and friendly and happy with his work in golf course management. He's famous for his golf trips with Rod Johnson; he enjoys the game as a player, as a student of golf course architecture, and as one of the country's best keepers of the green.

The WGCSA Distinguished Service Award has only been awarded a dozen times since our founding in 1930. Wayne Otto is a perfect example of the kind of individual the award was designed to recognize.

Congratulations, Wayne. We are proud to count you among us. ♣

EQUIPMENT FOR SALE

Nakoma Golf Club
has the following equipment for sale:

1989 3-wheeled Cushman with Core Harvester
\$1750.00

Ransom 180 Triplex
\$1200.00

Coremaster Aerifier
\$1500.00

Used Irrigation Heads:
Toro 650's, 670's, 690's
Rainbird - Eagle 900's, 51's

Jacobsen Greesking IV
\$1500.00

Jacobsen Model 40 Blower
\$800.00

For more information contact Clark Rowles at 608-238-2033



THOMAS J. EMMERICH
CERTIFIED IRRIGATION DESIGNER

*GOLF COURSE

*COMMERCIAL

*RESIDENTIAL

*MASTER PLANNING

*SYSTEM EVALUATIONS

TOTAL PACKAGE DESIGN SERVICES

T.J. EMMERICH ASSOCIATES, INC.
IRRIGATION CONSULTANTS

N68W W30986 CLUB CIRCLE EAST
HARTLAND, WISCONSIN 53029

414-966-1051



AMAZONE

3 in 1 Mower



Cleans up nearly everything pine needles, grass, cones, plugs, limbs, leaves, paper and much more **WITHOUT PLUGGING!**

Cuts cleaning time up to 90%

Ideal for:

- Golf courses • Parks
- Commercial landscaping &
- Athletic fields.

Aerate and scarify with optional blades. No tools required to change blades. Works well in wet conditions



4 Sizes Available



More Broom for your Money

Rick Chapman, veteran superintendent at Myerlee County Club in Ft. Myers, Florida, Utilizes the Greens Spiker/Seeder on greens and other dry spots for more effective water and chemical penetration. According to Chapman, he is saving 55,000 gallons of water per day with the help of this product.

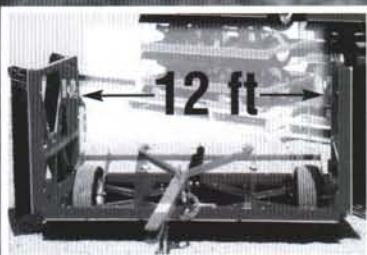


3-pt. model available



Increased Efficiency 100% with the Groom It Plus+ Broom

- Mount on any machine in minutes and can be removed in seconds!!!
- Reduces mower maintenance
- A great tool for brushing greens and fairways sweeps in sand, seed, grass clippings, fertilizer and heavy dew
- Cut your sweeping time in half with Groom It Plus



Thousands of shallow, closely spaced holes allow seed to be placed at the proper depth for germination and establishment



25 lbs. FREE seed with Spiker/Seeder purchase

For more information contact:

T.I.P. INC.

(715) 592-4650
FAX (715) 592-5063
1619 County K
Custer, WI 54423

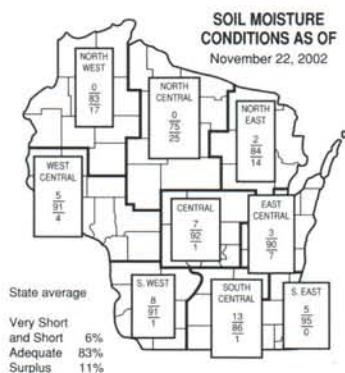
email: tip@triver.com

Distributed By:
JOHNSON TURF EQUIPMENT
P.O. BOX 196
WAUTOMA, WI 54982
PH (920) 293-8247
PH & FAX (920) 293-5131

Another Brown Holiday Season

By **Monroe S. Miller**, Golf Course Superintendent, Blackhawk Country Club

It seems anymore it is the norm to miss out on snow for the Thanksgiving to New Year holiday season. Such was the case again the past six weeks, resulting in another brown Christmas. Recent Decembers have been very warm, excepting the year 2000. Who could forget the unusually cold weather and the nearly three feet of snow during that Christmas season? Three feet of snow will give you cold temperatures, that is a certainty. December 2002 was more like 1998 (2.2" of snow), 1999 (3.2" of snow), and 2001 (2.3" of snow). This past December saw temperatures push to near 50 degrees F in the southern extremes of the state a few days after Christmas, far too warm for natives like me.



Interesting charts, graphs and tables from the professional staff at the Wisconsin Agricultural Statistics Service are here, and also on pages 49 and 50 for your permanent record.

Most of us, as we reflect back to the year past, will remember it as a warm year. We are correct, according to NASA scientists who monitor global temperatures. The year 2002 was, in fact, the second

warmest year in recorded history, globally speaking. The three warmest years have occurred in 1998, 2002 and 2001. The year 1998 holds the record and 2001 was the third warmest. Some are worried that the greenhouse effect is happening quicker than expected.

The Earth's temperature during 2002 was 58.35 degrees F, more than one degree above the long-term average of 57.2 degrees F. What's scary is the fact that 2001 experienced a La Nina event, which keeps temperatures lower. Without it, who knows how warm 2001 might have been.

Our working lives are so greatly affected by the weather that such data disturbs some of us (me, at least) a whole lot more than the guy who works in an air conditioned building all day. If greenhouse gases are responsible for this increase in Earth temps, life is going to have to change. And soon.

A couple of recent, significant moves by GCSAA have struck me the wrong way. Both are, in my view and in the view of many Wisconsin superintendents I have talked to, either untimely or unnecessary. I am speaking of their decision to raise dues, and the preliminary steps required to move headquarters out of Lawrence, Kansas.

The dues decision-makers must be living in a different world than the rest of the golf world. We are in a down time for golf - rounds, golfers, dollars, members, outings and nearly any other measure or indicator of golf business have declined. Directors and officers

should be forced to read Pat Norton's excellent piece in this issue of *The Grass Roots*. He is nose to nose with the business realities of golf and I don't believe Nettle Creek CC raised its green fees when business went down.

But GCSAA raised dues. And yes, I read all of the PR out of headquarters - the rational and justifications and all that, well, PR. Fact remains, in a serious downturn it is illogical raise dues. Why didn't the association reduce expenses or costs, like golf courses have to do and as Pat detailed in his article. Did that occur to anyone? Their failure to do so, once again, leads to distrust and a loss of credibility and the renewed charge that GCSAA cares only about big budget operations.

Where to cut costs? Let a few

Steuer
TURF FARM

Growers of
'Quality'
Bluegrass

Mineral & Peat

Pickup or Delivery
414-425-7767

hands-on members like Pat Norton tell you how. One place to start might be a substantial reduction in travel. That, however, seems to be sacred. I really enjoyed reading about the flap over the trip to the Ryder Cup. Normally, I have no problem with providing reasonable representation at such events. But it isn't believable that GCSAA would be greatly missed for one year; ask someone in an allied association two years hence who attended the Ryder Cup in 2002 for GCSAA. My guess is the question would be greeted with a blank stare. That is how important most of us feel it is. The symbolic gesture of passing on attending in a tough year would gain exponentially more than any meager benefit from being present. Let's at least be honest about it.

A foolish mistake was the response to criticism - parading the thoughts of GCSAA members from large courses whose travel budget probably exceeds the fertilizer budget of over half the members. Why not talk to a colleague from a small town 18-hole course who pays his own dues and travel? Too often his voice in our association isn't heard or listened to. Why cannot these association

leaders exercise a little sensitivity and common sense?

The initial steps required before moving the headquarters out of Lawrence really upsets me. There isn't any legitimate reason I have heard, including a nice discussion of the matter with Steve Mona, that justifies such a move.

Who cares how many people visit headquarters? It is a place of business, not a tourist destination. There is a nice little historical display, much of which is moved to the GCSAA conference for members' enjoyment, but that is about it. It is an office building. I have been there many times, most often as a committee member of one sort or another, but also on my own a couple of times. It has a central location near a large airport in the center of America. That was the point when the move from Chicago to Lawrence was made. What has changed? If a members wants to visit, they most surely can do that now, fairly easily.

The gossip I have heard and read indicates strong favor for a move to Florida, which would physically put the headquarters a long, long way for people on the west coast.

The biggest negative comes with what I predict would be a sub-

stantial loss of important, experienced and well-trained staff. I cannot imagine why someone with long term ties to Lawrence and the Midwest would want to move to a metro area in Florida. The potential problems are scary.

And unnecessary. For all the turmoil and ill will that would be created, answer this question: "How will the average member benefit from such a move? I will give you my answer - he or she wouldn't.

The GCSAA functions as well in Lawrence as it would in Orlando or Phoenix. I like Rod Johnson's suggestion: if they want to move headquarters, why not move it to Sheboygan?

And speaking of Rod Johnson, thanks go out to him and Beverly and Danny Quast for the work and planning that went into a wonderful evening to honor Wayne Otto's retirement. Such fun we won't have again in quite a while.

The Wisconsin Turfgrass and Greenspace Expo 2003 is almost here. I hope to see you at the Marriott West in Middleton for a truly excellent educational experience. ♣

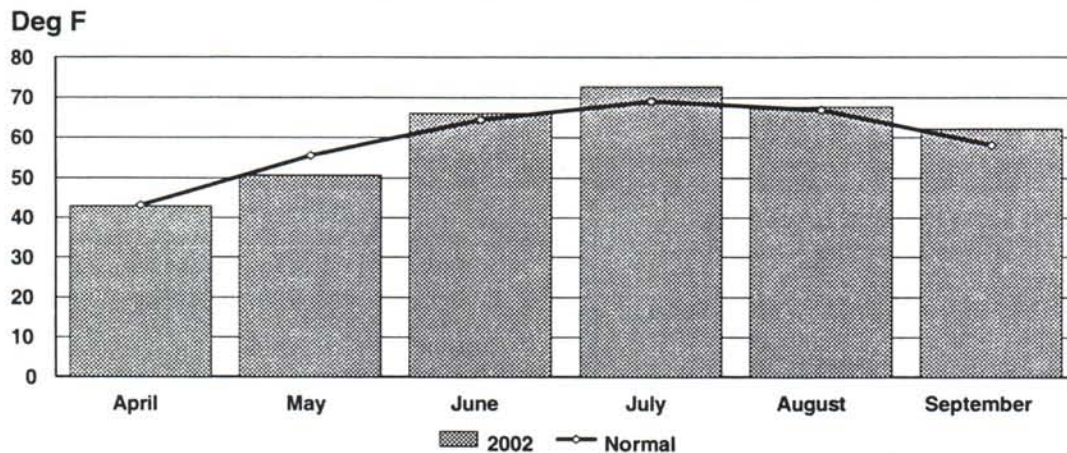
GCSAA ATLANTA 2003

An Event of Worldly Proportions

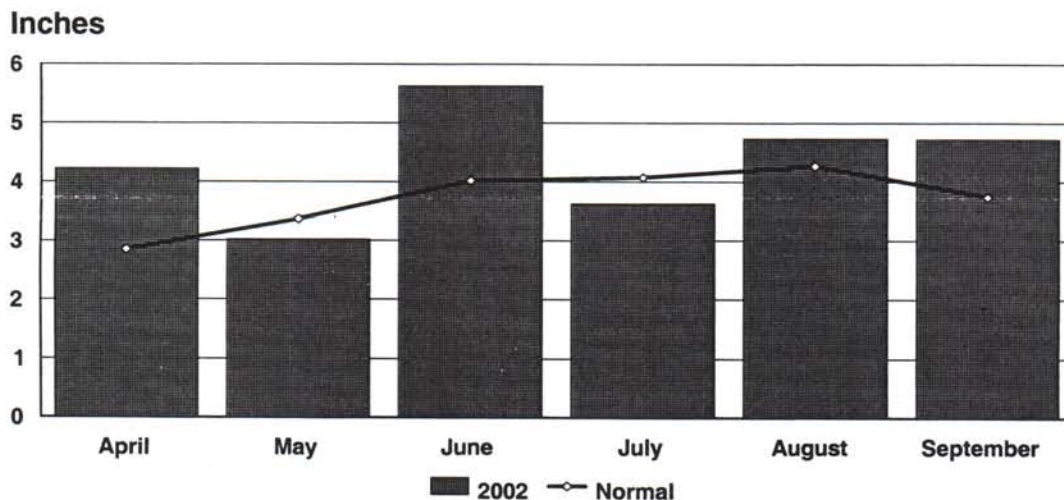
February 10-15, 2003

Georgia World Congress Center
Atlanta, GA

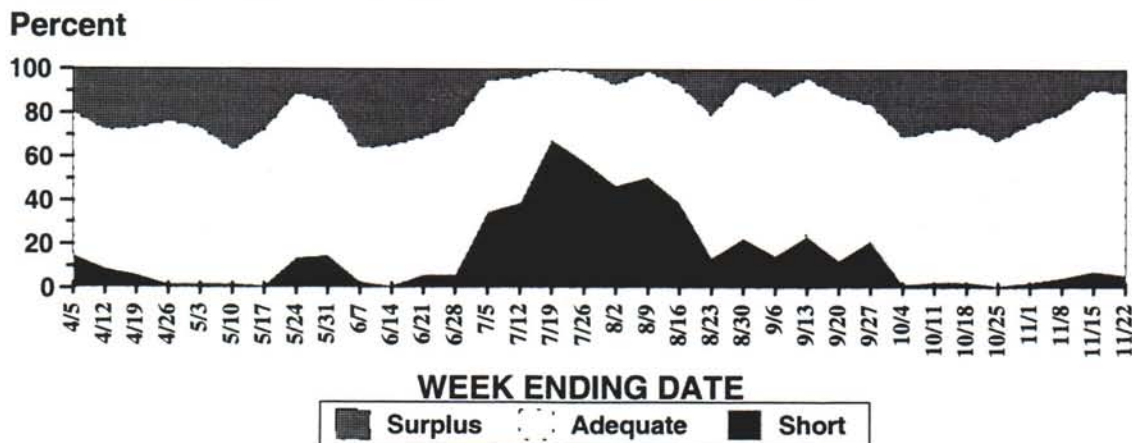
AVERAGE MONTHLY TEMPERATURE, WISCONSIN, 2002



AVERAGE MONTHLY RAINFALL, WISCONSIN, 2002



SOIL MOISTURE RATINGS, WISCONSIN, 2002



MONTHLY TEMPERATURES: 2002 GROWING SEASON AND NORMAL*

District	April 1/		May 1/		June 1/		July 1/		August 1/		September 1/	
	2002	Normal	2002	Normal	2002	Normal	2002	Normal	2002	Normal	2002	Normal
	Degrees Fahrenheit											
NW	40.5	41.7	48.8	54.4	64.3	63.1	71.5	68.1	66.4	65.9	60.7	56.6
NC	39.0	40.4	47.6	53.2	63.8	61.8	70.6	66.4	64.8	64.2	59.4	55.3
NE	40.5	41.3	47.9	53.6	63.6	62.5	71.0	67.0	65.8	64.8	59.7	56.0
WC	44.9	45.2	53.0	57.4	68.6	66.4	74.6	70.8	68.9	68.3	63.2	59.3
C	44.9	44.5	52.3	56.7	67.2	65.8	73.5	70.2	68.5	67.7	63.0	59.0
EC	43.8	42.8	50.0	54.6	65.9	64.1	73.4	69.5	69.0	67.9	63.7	59.8
SW	46.7	46.1	54.3	57.9	68.8	67.2	74.4	71.4	69.9	69.0	64.5	60.5
SC	46.9	45.8	53.9	57.8	68.8	67.2	74.7	71.3	70.3	68.9	65.3	60.6
SE	46.4	45.0	52.4	56.3	68.0	66.0	74.6	71.2	71.2	69.4	66.1	61.4
STATE	42.9	43.2	50.6	55.5	66.1	64.5	72.7	69.1	67.7	66.9	62.2	58.1

1/Preliminary estimates, 2002. * Normal is defined as the 30-year average for the years 1971-2000. Source: State Climatologist.

MONTHLY RAINFALL: 2002 GROWING SEASON AND NORMAL*

District	April 1/		May 1/		June 1/		July 1/		August 1/		September 1/	
	2002	Normal	2002	Normal	2002	Normal	2002	Normal	2002	Normal	2002	Normal
	Inches											
NW	4.10	2.39	3.28	3.29	4.77	4.19	4.81	4.29	5.80	4.44	6.28	3.89
NC	4.78	2.40	3.12	3.31	4.95	4.01	4.90	4.06	5.04	4.36	6.39	4.03
NE	4.81	2.65	3.54	3.29	5.43	3.69	3.30	3.70	4.30	3.81	4.01	3.74
WC	3.92	3.05	2.45	3.69	7.45	4.24	4.04	4.45	5.09	4.54	5.00	3.82
C	3.99	3.02	2.60	3.52	7.88	3.88	2.77	4.13	3.98	4.22	3.91	3.72
EC	3.91	2.81	3.07	2.95	5.00	3.51	2.00	3.38	3.70	3.86	3.12	3.42
SW	3.97	3.55	3.20	3.60	5.91	4.35	3.55	4.33	4.17	4.46	2.98	3.42
SC	4.05	3.47	2.81	3.40	4.75	4.19	1.97	4.07	4.44	4.24	3.61	3.51
SE	3.91	3.48	2.72	3.13	4.58	3.76	2.14	3.82	4.95	4.22	4.07	3.48
STATE	4.22	2.86	3.02	3.37	5.63	4.02	3.63	4.07	4.74	4.27	4.73	3.74

1/Preliminary estimates, 2002. * Normal is defined as the 30-year average for the years 1971-2000. Source: State Climatologist.

COMPARATIVE TEMPERATURE AND PRECIPITATION DATA

District	Average Temperature						Total Precipitation					
	June - September						April - September					
	Normal*	1998	1999	2000	2001	2002/1/	Normal*	1998	1999	2000	2001	2002 1/
	Degrees Fahrenheit						Inches					
NW	63.6	65.0	64.0	61.6	64.6	65.8	22.3	17.6	29.2	21.5	25.6	28.6
NC	62.3	63.5	61.5	61.3	63.5	65.2	22.1	16.3	25.6	24.1	24.0	28.0
NE	63.0	64.3	64.1	61.6	63.6	65.3	20.9	16.1	22.8	23.0	21.3	26.9
WC	66.7	67.7	67.2	64.9	67.2	68.8	23.5	23.1	27.5	25.4	27.6	29.3
C	66.1	67.1	66.3	64.7	66.6	68.4	22.3	21.7	25.7	27.1	25.8	24.0
EC	66.0	67.3	66.6	64.7	66.7	68.3	20.0	18.7	22.4	24.5	22.4	20.1
SW	67.5	67.9	67.7	66.0	67.4	69.4	23.5	27.7	30.3	30.6	28.7	24.0
SC	67.6	68.7	68.2	66.5	67.8	70.0	22.7	25.8	28.1	30.6	27.6	20.6
SE	67.6	68.7	68.6	66.6	68.0	70.0	22.0	20.9	27.4	31.8	25.5	21.7
STATE	65.1	66.2	65.6	63.6	65.7	67.4	22.2	20.5	26.7	25.6	25.3	25.8

1/Preliminary estimates, 2002. * Normal is defined as the 30-year average for the years 1971-2000. Source: State Climatologist