



Climactic Chaos and Your Turf

By Steve Millett
Department of Plant Pathology
University of Wisconsin-Madison

Our climate is in chaos and everyone is speculating on what El Nino will do next. Growers of all commodities want to know how El Nino will affect their livelihood. Climatologists and weather freaks didn't need Jimmy the groundhog from Sun Prairie to pop his head out and see his shadow to tell us that January was much warmer than usual and that spring is just around the corner. The average temperature in January was 23.7 degrees, well above the normal average of 16 degrees. While there were only two days in January when the temperature was below zero, the precipitation was more than double the normal average, with 18.9 inches of wet snow. El Nino has brought Wisconsin a warmer, wetter winter and one of the darkest Januarys ever! How will El Nino affect your turf? Has El Nino provided ideal environmental conditions for snow mold damage? Will El Nino bring us a hot summer filled with toasted turf? What about global warming? Is it a myth or a real phenomenon? And why should you care? These are some tough questions growers will ponder as they try to forecast potential problems of this growing season and the seasons to come in the next century.

El Nino has had a huge impact on many aspects of our lives. The warm winter has spurred a housing boom, with residential construction in Madison off to a red-hot start for 1998. Gravediggers in the southeastern third of Wisconsin saw frost depths of only 1 to 6 inches in late January, which is far less than the normal 8 to 12 inches (Wisconsin Crop Weather).

Potent storms reeked havoc all over the globe. El Nino is battering California with rain and wind, leaving residents and rescuers struggling to save lives and homes. Snow weary residents of Kentucky trudged through snow drifts left by a three day snow storm and nearly 500 National Guard troops were activated to help those snow bound Kentuckians. The mayor of Nagano, Japan, asked residents to pray for snow before the start of the Olympic Games as bare spots on ski slopes worried many of the organizers. Unfortunately, the praying hopefuls learned to, "be careful what you wish for" as heavy snows delayed skiing competitions for several days.

The natural fauna and flora have also been affected. El Nino has given bugs and plants an early wake-up call, as tulips, skunk cabbage and ladybugs in the Madison area have come out of hibernation early. What about snow mold? Well, the lack of frost penetration and temperatures close to the optimum temperature for fungal growth MAY HAVE provided optimal conditions for some serious snow mold damage in the state of Wisconsin. Total snow cover days in Madison are about three weeks behind the average of the last two years. I don't know yet if this year's snow mold damage will be greater than average, but by the time you read this article, the snow may have melted

and we will all know the answer to that question.

The effects of El Nino are expected to continue through midsummer. What will it bring? Will it bring back memories of the summer of 1995? Warmer temperatures are being predicted for Wisconsin and probably the only thing we can do is expect hot temperatures and not sweat it. Arguments over what El Nino might bring will continue as the growing season progresses.

Another topic that scientists and non-scientists alike will continue to debate is global warming. Is it a myth? According to the State Climatology Office, the state's mean annual temperature has varied widely over the past 103 years, but overall, it's one to two degrees warmer than the 150 year average. *The Wall Street Journal's* December 4, 1997, article says that temperature variations are caused mainly by sunspot activity. Furthermore, the *WSJ* says that there is no persuasive evidence that people have altered

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global temperatures and that some computer models incorrectly predicted temperature increases from the period 1980 to 1996. Climate models have been both used and abused as they have become increasingly sophisticated. However, they do not offer the certainties that policy makers or growers would like.

An extremely important question when thinking about snow mold damage and current breeding efforts is this: Is the amount of snow cover changing? Snow is a transient part of the earth's surface and since the monitoring of global seasonal snow is practical only with satellite remote sensing (see the National Operational Hydrologic Remote Sensing Center @ www.noahrs.nws.gov/index.htm), there are no reliable records prior to 1971. Records since 1971 reveal considerable variability. The extent of snow cover lessened since 1987 (Robinson et al., 1993. Proc. Fifteenth Annual Climate Diagnostic Workshop. NOAA, 219-224), with the largest snow anomalies occurring in the spring. Recent direct measurements reveal an increase over the past century in the North American Great Plains (Brown et al., 1994. Annals of Glaciology, 21:45-50) but a decline in the Canadian Prairies.

How sensitive is snow cover to climate change? Karl et al. (Journal of Climatology, 1993. 6: 1327-1344) predicted that a one degree increase in the annual temperature of the Northern Hemisphere would result in a 20% reduction in North American snow cover. If Wisconsin were to experience this 20% reduction in snow cover, the amount of snow mold damage would be greatly diminished while other turf diseases gained greater importance.

Global warming and the response of fungal pathogens have led some researchers to closely reevaluate some of their research objectives. Wheat breeders in Japan have already changed their objectives because of their belief that the climate of Japan has changed. This is particularly important for breeding since research efforts often don't come to fruition for years. It would be very disappointing if it took 15 years to develop a snow mold resistant variety only to find out that contemporary growers didn't need it after all!

What do we still need to know? There are many uncertainties in understanding what is currently happening to critical components of our climate, mainly because existing monitoring systems are inadequate. Critical questions remain about how each component of the turfgrass ecosystem will react to climate change. Effects of climate change on other natural systems need to be better understood and quantified, particularly when they affect humans. Economic systems of agriculture, forestry, tourism, transport and engineered structures are just a few to consider.

Today we live in a world where the only thing that is constant is change. It is imperative that we remain aware of what is happening around us, otherwise the river of change will make growing grass very difficult.

Catherine's Couscous

The other day I was looking through my recipes trying to plan next week's meals when I found this recipe that Catherine Smejkal gave to me in 1994. There I was, a 31 year old man with tears in his eyes hovering over a recipe card. I had enjoyed Catherine's couscous several times, but I haven't made it since she left us on February 29, 1996. I miss Catherine.

Catherine brought so many good things to everyone around her. She had a passion for cooking as well as science. Our department enjoyed the benefits of her culinary skills often because Catherine organized birthday parties and special celebrations at Russell Labs. She always tried to make people smile if not with her humor then with her food. I told her once that I loved anchovies but hardly ate them because nobody else shared my desire. The next party at RL she prepared a fancy relish dish with all sorts of stuff including anchovies. She told me she brought them for me. Sometimes it's the little things that matter most. I loved Catherine.

Well, after rediscovering this recipe I went out and bought the ingredients to make Catherine's couscous. It is still as robust, vivid and yummy as it was when I first made it. Eating it made me smile. I hope that you too will enjoy and remember Catherine when you experience this delicious treat. Catherine was a great person and a great cook who brought happiness to many people. Enjoy.

Catherine's Couscous

couscous – 3 cups water/2 cups couscous
 2/3 cup fresh lemon juice
 3 Tablespoons red wine vinegar
 2 Tablespoons dijon mustard
 4 garlic cloves, minced
 3/4 cup olive oil
 1 cup each of love and laughter
 1 bunch of green onion, chopped
 1 15 oz. can of garbanzo beans (drained)
 1 cucumber, peeled, halved, gutted of seeds, chopped
 3.8 oz. can sliced black olives
 1 fresh bunch of parsley finely chopped
 1/4 cup fresh mint (optional)
 1/2 lb. Feta cheese crumbled

Couscous: Bring water to boil in saucepan, mix in couscous, cover & remove from heat. Let stand 10 minutes, transfer to large bowl & fluff with fork.

Dressing: Mix lemon juice, vinegar, mustard & garlic in bowl – whisk in oil. Add green onion, drained garbanzo beans, cucumber, olives, parsley, mint & dressing to couscous, toss well. Add feta, toss gently. Refrigerate and serve cold. 🌿



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