#### (Continued from page 19)

son's worst weed problem. The award's namesake spent a good number of years looking for solutions to weed invasions in turfgrass fields, from putting greens to sod fields to home lawns.

Two candidates for the 1991 Newman stand out—crabgrass and knotweed. Both are prolific seed producers and last year must have been a tremendous year for seed production. Many of us have never seen crops of these two weeds like we see this year.

Superintendents who didn't get preemergence herbicide down were crying the blues every time they drove across the golf course.

Based on ACCLAIM sales since July 1, the Newman Award goes to a really ugly weed—crabgrass.

Pest of the Year Award: This wide open category has a couple of clear winners. First place goes to the crow, a miserable and ugly bird that can, with the help of only a few others, trash a putting green almost overnight while gulping down cutworms. Too bad shotguns aren't legal within village limits.

Second place goes to an ugly animal—the mole. We captured more this year than in the previous ten taken together. This beast, like the crow, can make a mess overnight.

WGCSA "Survivor of the Year" Award: Co-winners in this category, too. Mike Semler and Mike Kositzke were both visited by shop fires and tremendous storm damage. Yet both men confronted their problems head-on like the pros they are and managed their golf courses back to normal. Applause for them is in order.

Quote of the Year: This award goes to Professor Larry Binning, chairman of the Horticulture Department at the UW-Madison. He was commenting on Dr. Robert Newman's teaching abilities at Bob's retirement party and offered this: "When you ask Bob Newman what time it is, he ends up explaining to you how to build a clock!"

Nice shot!

UW-Madison entomologist and good WGCSA friend Phil Pelitteri says the woolly bear caterpillar is predicting a mild winter. Phil looks at the banded woolly bear and if the brown bands are wider, we can expect a milder winter than normal. That's the case this year.

Interestingly, that tried and true source—The Farmer's Almanac—also predicts a more tolerable season for the 1991/1992 winter. The Almanac specifically says to expect a "milder than normal winter" with the "possibility of heavier than average snows." The prediction also carries the note that there will be a "January thaw interspersed with seasonable cold and a chance of heavy snow."

Phil is hedging a little bit, based on his own instincts. He thinks we are in for a bad winter since it's been so mild. A number of meteorologists agree with him, based on the law of averages and current weather patterns that are below normal in temperatures.

I hope The Farmer's Almanac and the woolly bear caterpillar are right!

#### .

While on my autumn leafpeepers trip to New England this fall, I witnessed one of the most interesting natural phenomenons you'd want to see. Any plantsman would be intrigued to see lilacs in bloom, buds and new leaves on trees and full bloom roses in October in northern places. I thought it was springtime.

I was on Martha's Vineyard, and the hint of spring sort of made up for the lack of any fall color on the island.

What was on display was evidence of Hurricane Bob. The storm's vicious attack on the island had confused plants into thinking it was indeed spring, not fall.

The salt spray from the hurricane winds killed flowers and leaves on most small plants and trees. With the day length and temperatures of September coupled with the lack of living leaves, the plants apparently thought it was spring. New leaves and blossoms came forth.

This interesting situation could not have happened later in the season had the plants already gone into dormancy. But, as we know, buds are maturing in late summer and early fall for the next spring. Hormones from healthy leaves keep them from opening until the spring season.

Once the leaves were gone from the storm, the buds opened. Opening wouldn't have happened had the storm come later because cold weather and shortened days naturally keep them closed even without leaves.

The obvious question is "what will happen next spring?" Best guess seems to be that plants will leaf out, but they may not bloom. Many times I've seen on our golf course a releafing after a crisis (a hard freeze in spring after leaves are out, for example). On Martha's Vineyard, Nantucket and other areas damaged by Hurricane Bob, next spring will seem like a crisis to the plants.

It sure made for some interesting

viewing this fall, however.

You know it must be fall in the northern climes—the moose and elk are out. The males, anyway.

Last year we reported a story about a moose on a Wisconsin golf course and the trouble he was causing. This year there is a story about an amorous elk posing serious hazard on a northern golf course.

The story comes from Canada. Mating elk in the Canadian Rockies are causing concern on the Banff Springs golf course. In early October a golf course employee who was raking sand traps was attacked by an elk. The beast charged the raker, knocked him down and stomped on him.

Starters at the course are telling players to stay at least 100 yards away from any elk and under no circumstance are they to position themselves between a male and female elk.

It is becoming a dangerous profession we are in. Mad moose, irate golfers, violent weather and horny elk.

I don't want to think about what is next. What if the Holsteins suddenly eye up our "greener pastures"?

Several members of the WGCSA were in attendance at Professor Bob Newman's retirement party. Bruce Worzella paid a tribute to the retiring faculty member and presented Bob and his wife Diane with what I think is best described as a "chance for a memory". Between the WGCSA and the WTA, Bob and Diane will be able to experience something really nice when Wisconsin's weather is really terrible.

It was a classy affair. Faculty, industry friends of Bob and university administrators filled a good-sized room in the Wisconsin Center, overlooking beautiful Lake Mendota.

The only thing that aggravated me was that I had to park a mile away and walk to the Center. Bruce Worzella, on the other hand, was foolish enough to drive right to the front door and find a parking spot for his van.

Beginner's luck.

Joanne Roskopf lost her courageous fight against cancer on September 23. She was only 51 years old.

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### Shifting Fungicide Responses and Anthracnose Control

By Dr. Gayle L. Worf Professor and Extension Plant Pathologist University of Wisconsin-Madison

Fungicides that are very effective for a period of time do not always remain that way. Today that is a recognized fact of life among turf management professionals, and serious efforts are underway at many levels, both to understand what's happening, and to develop realistic and effective management strategies to cope with it.

One such area of concern has been the diminished control by Bayleton over the past 15 years in its control of Poa decline, of which anthracnose disease (*Colletotrichum graminicola*) is a recognized component of the problem.

First, we should point out that Bayleton remains a very effective tool against many diseases. And the alleged loss of anthracnose control has not occurred on all courses. I frankly have no idea of the extent to which this change has occurred. I know that it is not a problem everywhere, and the conclusion shouldn't be reached when control failures are encountered, that it is a result of an ineffective chemical. We've known from the beginning that control of this disease has depended as much upon a rigorous, properly timed preventive application schedule as well as product. It also depends upon good nutrient and cultural management. Control isn't possible in severe years if nitrogen stress occurs or severe compaction problems are encountered. And when you are working on fairways, have restricted the number of applications because of a limited budget, or perhaps by trying to minimize chemical applications through an IPM strategy, it can add to the confusion when standing on the course trying to analyze what went wrong!

Probably the most confirming evidence in the field of fungicide resistance comes when you are looking at fungicide plots on courses where there is a history of disease development and chemical response. I recall in earlier years marvelling at the beautiful green dense turf following Bayleton treatment, and the agony in subsequent years on the same courses to see the thin yellow diseased turf under similar circumstances. The good news in those instances has been the excellent control still obtained by other chemicals.

Another way to check fungicide "tolerance" is in the greenhouse and laboratory. Two approaches come to mind, and both should be employed where possible. The "in vitro" study involves comparing fungal growth and development of different cultures (or isolates) of the fungus in petri plates to which increasing levels of the fungicide have been introduced into the growing media. Where the fungus is still sensitive (and therefore controllable) it takes only a small amount of chemical in the media to stop growth, but as sensitivity to the fungicide is lost, it takes more and more chemical. It's important to have cultures representing the "before fungicide change" and "after fungicide change" for best comparison and interpretation. Whenever possible, trials involving inoculating and protecting plants with fungicides, e.g., so-called "in vivo" tests, should also be included. This might be particularly important for systemics and sterol inhibitors (SI's), because of potential artifacts in the in vitro study.

Responsible chemical companies are probably more concerned about possible shifts in control with their products than either you or I might be. The Mobay Corporation, manufacturer of Bayleton, has certainly been attentive of this situation, not only because of their product but because of general concern to keep the valuable sterol inhibitor fungicides available and useful into the future. A year ago they provided us with financial support for such a study. I want to share with you what we did and what we found.

We did not have cultures remaining in our fungal collection of C. graminicola from courses dating back to the time when Bayleton control was good. So we did what we thought was the next best thing. We used five different isolates, including two (1988 and 1990) from the Nakoma golf course where Randy Smith, Chuck Frazier and the entire membership have patiently put up with our requirements and their interrupted play for so many years, and where we have best history information. Another isolate came from the roots of a Trout Lake diseases Poa specimen. The other two were without specific history. In vitro studies were conducted with 0 ("check"), 0.1, 1, 10 and 100 ppm active ingredient levels of each of the fungicides listed in the tables below. All chemicals except Daconil are registered or experimental sterol inhibitors about which we have some field history of their effectiveness. Daconil was included as a contact fungicide which suppresses the disease, though less effectively than SI's when the latter are working.

In the following figures I've included in vitro results from three isolates, including the two from Nakoma (numbers 1 and 5). Number 1 was isolated in 1988, the other in 1990. Both were after several years of Bayleton use, and after failures were observed. Isolate three was from Trout Lake, where we do not believe Bayleton use pressure had occurred. For the remaining two isolates, generally good suppression occurred with all fungicides although the same trends existed.

We offer two observations. The fungus in every instance was least affected by Bayleton in these tests. The comparisons were virtually the same with all fungicides and isolates, with Daconil not quite as active in vitro (which is what we would have guessed) than the other SI's, which were virtually identical in inhibiting fungus growth at various concentrations. This follows what we saw in the field and tends to support the suspicion that Bayleton activity is diminished.

Secondly, the extreme lack of sensitivity in the Trout Lake isolate strongly intimates that resistance is already present in the environment, and is not "created" by Bayleton use. But Bayleton use may select out and favor such strains.

(Continued on page 25)

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#### (Continued from page 23)

What is certainly significant in these observations is the fact that other SI's did *not* show similar evidence of developing resistance. That's encouraging! It leaves us with the hope that these chemicals are not all peas in a pod when it comes to that sort of thing.

What of the in vivo (grass inoculation) studies? No disease developed. Not after one, two or three separate inoculation attempts. Not with varying environments, and not with root inoculation attempts, either.

So we were not able to look at alleged fungicide resistance from that angle. Aside from this study, such results could raise the question of significance of the anthracnose fungus as an important causal agent in the Poa decline syndrome. (Back to that story again!) Interestingly, we had developed some good foliar symptoms in inoculation studies (for another purpose) in some previous winter studies with identical foliar inoculation procedures.

l urge you not to read into this report more than you should. Bayleton remains a good fungicide for many purposes. There's none better for dollar spot, and if you're working primarily with bentgrass with desires to keep out the Poa, allowing anthracnose to work on the Poa (decline doesn't affect bentgrass) makes sense from a biological control approach. Also, Bayleton is one of the more economical fungicides.

And Bayleton literally blazed the trail for the SI's. It was around for years before the next members could gain EPA approval. My most memorable experience with fungicides was the way we could virtually write our name in the grass with the control it provided in its early days.

I can't resist mentioning one more time how intriguing the whole question of Poa decline really is. Over the past twenty years it has become apparent that Poa doesn't "die spontaneously"; that anthracnose can contribute, but it's complete role remains controversial. What I define as Poa decline starts with severe root loss. Anthracnose can cause root rot on some other hosts but I'm unaware of any proof of that on turf. Poa summer patch has become a hot subject the last few years, especially in eastern states. It can really do a number on Wisconsin turf, as many of us have seen. But in my mind it's not the cause of most of our Poa loss, unless it occurs in a much more subtle fashion than anyone has demonstrated to date. Really, until the etiology of this problem is better understood, my view is that the ultimate usefulness of greenhouse and laboratory studies like this remains severely handicapped.

I've always enjoyed mysteries!





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FIFRA Pre-Emption Battle Waged in Wake of Supreme Court Decision

Editor's Note: Conversations and articles about the Supreme Court decision in the Town of Casey/FRoWT suit will likely continue for a long time. The potential influence of the decision is enormous.

Following is an article that appeared in the Chemical Regulation Reporter of September 13, 1991. It offers yet another point of view.

In the wake of a Supreme Court decision that state and local pesticide use laws and ordinances are not pre-empted by federal law, environmental and some state officials are challenging efforts by the chemical industry for enactment of federal legislation to prohibit explicitly such local regulation.

The nation's high court ruled unanimously that the Federal Insecticide, Fungicide, and Rodenticide Act does not pre-empt local pesticide use regulations. It upheld the authority of cities and towns to control and ban the use of pesticides through permitting schemes, licensing, notification, and other requirements that focus specifically on the use of pesticides (*Wisconsin Public Intervenor v. Mortier*, US SupCt 89-1905, 6/21/91; 15 CRR 387).

An array of business and industry groups formed the Coalition for Sensible Pesticide Policy (CSPP) soon after the decision. The stated objective of the coalition, is "To secure sensible, uniform federal/state regulation of pesticides, by passing pre-emptive language while allowing local input into the federal/state regulatory process."

The coalition has stated its members believe it is in the nation's best interest to have a partnership of federal and state governments vested with the authority to make and carry out pesticide use regulations.

More than 125 organizations representing chemical manufacturers, farmers, biotechnology companies, lawn care professionals, pest control operators, florists, and others have joined the coalition, representatives of the group told BNA. CSPP letters were sent September 3 to the president, vice president, nearly all the cabinet secretaries, EPA, and other agencies. The group sought support for a FIFRA amendment that would establish federal pre-emption of pesticide use ordinances.

#### 83,000 Regulatory Units?

"We fear that the Court's decision will open the door for upwards of 83,000 local governments to regulate the use of pesticides," the letter to President Bush stated. "Such regulation would lead to increases in the price of food through new artificial limits on agricultural productivity and food processing/ storage," the coalition said in its letter to Secretary of Agriculture Edward Madigan.

Local governments lack the scientific and technical expertise to make complex regulatory decisions, CSPP said in the letters. The Supreme Court decision also sends conflicting signals to U.S. trading partners at a time when global harmonization is being sought on food safety standards. The legislation also is needed, the group contended, because of conflicting views within the administration on establishing uniform tolerances—the maximum amounts allowed—for residues of pesticides on food.

An attorney for the National Agriculture Chemicals Association, which has coordinated the administrative functions of the coalition's steering committee, September 11 said the coalition had drafted simple amendments to FIFRA. The steering committee is expected formally to adopt a plan to get the amendments introduced in Congress, attorney Steve Russell said.

One member company of the Professional Lawn Care Association of America, a coalition member, has sent model legislation to nearly all the states. This legislation would set up a framework for regulations of lawn care chemicals by states, according to Jo Cooper of Capitoline International Group, which represents PLCAA on federal issues.

#### **EPA** Position

In an address to the Grocery Manufacturers of America, Linda Fisher, assistant administrator for pesticides and toxic chemicals, September 11 explained that while the administration opposes FIFRA pre-emption of local authority, it favors pre-emption authority under the Federal Food, Drug, and Cosmetic Act for setting pesticide residue tolerances on or in food.

Prior to the Supreme Court ruling, the Department of Justice February 28 submitted a friend-of-the-court brief supporting the notion that FIFRA does not pre-empt state and local regulation of pesticide use (14 CRR 1686).

"It is important, given the fact that in many local or state jurisdictions you have...environmental concerns that may differ from one state to another," she said, noting ground water and endangered species protection as examples. EPA views federal government regulation of pesticide use as a floor above which stages could be more protective. The agency does not want this scheme changed in Congress, she asserted. At the same time, however, the agency supports uniform pesticide tolerances.

"The fact that food does travel in interstate commerce, needs to be recognized, and when the agency sets a tolerance that we believe is protective, that tolerance should be nationally uniform, with limited exceptions," Fisher maintained.

#### **Battle Lines Drawn**

"The battle lines are drawn," Jay Feldman, national coordinator for National Coalition Against the Misuse of Pesticides, said September 11. "The permit scheme that was upheld in *Mortier* is a critical one because it establishes the cooperative role that local governments can play."

Involving local governments in determining whether proposed applications are in accordance with label directions would be one of the least intrusive applications of *Mortier*, Feldman maintained. (Continued on page 29)

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#### (Continued from page 27)

One of the most "aggressive" applications would be a complete pesticide ban, he said. But local governments do not appear to be moving in that direction, he noted.

NCAMP is focusing much of its attention and resources on the issue, but Feldman revealed few parts of the group's strategy to protect local authority from industry efforts to limit it. The environmental group would support clarifying language in proposed legislation that would affirm the rights of localities and states to regulate pesticide use, he said, and generally will push to protect FIFRA language as it exists.

Although such local factors as climate, wind conditions, population, geography, and water supply would be considered in local regulation, such rules are unlikely to impede business, he asserted. Industry, he charged, may be subject to enforcement of pesticide labels and other standards in the state and local laws that previously were neglected. But evidence that a patchwork of local laws would result from the ruling is nonexistent, Feldman contended.

#### Wisconsin Activity

Thomas Dawson, the Wisconsin public intervenor who successfully argued the *Mortier* case before the U.S.

NATURAL

Supreme Court, told BNA September 9 his office was contacting environmental and local government groups to ensure that they were aware of the decision. Dawson said he is urging them to take a coordinating role in the push to thwart industry actions. His office, he said, is too small to spearhead a national effort.

"This isn't just a local issue," Dawson contended., "This is an attempt by industry to deprive states of their sovereign powers as well. And that power is the ability of states to assign and delegate authority to local governments to regulate pesticide use."

It would be a "broadside attack on the states" if Congress amends FIFRA to include pre-emptive language, Dawson asserted.

In Wisconsin, the public intervenor is negotiating with the Wisconsin Turf Management Association to develop by the end of 1991 uniform statewide regulations for lawn care. Those rules, he said, would be administered at the local level. Involved in those negotiations, he said, are roughly 15 representatives drawn from the turf industry, environmental groups, and local and state governments.

Dawson charged industry with failing to back up its claims of increased local regulation of pesticides. He said more than 80,000 local governments are not regulating pesticides.

"Even if there were [more than 80,000] local governments in this country...an extremely small minority have even considered, let alone passed regulations relating to pesticide use," Dawson maintained. "And of that tiny percentage, many ordinances are not even regulatory."

The agricultural chemical industry, he said, does not need to worry about the rural sector, since most rural towns boards are comprised of pesticide-using farmers who are unlikely to pass ordinances to "cut their own throats."

The reason for the battle, Dawson claimed, is that the chemical industry does not want effective pesticide regulation. Effective local regulation will put pressure on Congress and state legislatures to follow suit and tighten their oversight, he added.

"The only reason local governments are passing ordinances is because federal and state regulation is a failure," Dawson concluded. "The chemical industry cannot come up with any bona fide data to show that the ability to take care of pesticide problems has been seriously affected by the passage of local ordinances."

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### WGCSA Visits Lake Ripley Country Club

A cold wind was blowing across Wisconsin on August 19th when the WGCSA convened at Lake Ripley Country Club in Cambridge. A warm welcome greeted everyone from host superintendent Randy Staubli and his wife Marcia.

After lunch from the outdoor grill, it was off to golf this very well maintained and fun golf course. As the day progressed, the weather improved, and jackets and sweaters were removed. Everyone enjoyed this fine course that is frequented mainly be summer residents of Lake Ripley.

The events of the day were a series of single hole events. The winners were: Hole #1, Pat Norton, closest to the pin; Hole #3, Scott Shaller, long drive in fairway; Hole #6, Joe Wollner, closest to the pin from the sand; Hole #8, Ray Shane, closest to the pin; Hole #9, Paul Feldhake, long putt; Hole #11, Butch Payne, closest to the pin in two; Hole #13, Chuck Wollner, most strokes (12); Hole #15, Jon Hegge, closest to the pin; Hole #17, Tom Merkel, long putt; and Hole #18, Rick Lange, closest to the tree in the fairway.

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