THE BULL SHEET, official publication of the MIDWEST ASSOCIATION OF GOLF COURSE SUPERINTENDENTS.

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President's Message

Like a bad nightmare, 1987 will be a year that is locked tight into everyone's memory. The winter of no snow, the spring with little rainfall, the summer of extreme heat, humidity, drought, and then record rainfall in August. O'Hare Airport officially recorded 17.5 inches of rain in August, the wettest month in history. Many area courses received a minimum of 12 inches. There are some courses closed for the year, and many that required major reseeding and sodding in preparation for the 1988 season. Hopefully, the remaining weather in October and November will allow all of us to complete our fall projects before the snow flies. I think everyone is looking forward to a long winter of fun and relaxation.

The heavy rainfall seriously affected the Western Open at Butler National. Tournament officials were forced to re-route 9 holes to the Oak Brook Municipal Course. In doing so, the M.A.G.C.S. tent located by the non-playable holes, was not near the main flow of golf spectator traffic. Due to these circumstances, we decided to close the tent. We were very disappointed, after considering all the work and preparation for the tent. Oscar Miles has been kind enough to invite the M.A.G.C.S. back to Butler again next year. We want to thank Oscar for all of his time and effort in preparing the tent and facilities for the M.A.G.C.S. We also must thank Warren Bidwell and Tee-to-Green Corporation for being co-sponsors in the tent. Tee-to Green Corp. and M.A.G.C.S. have donated \$750.00 to W.G.A. and the Evans Scholars, and \$250.00 to G.C.S.A.A. Scholarship and Research Fund, in lieu of the money donated and allotted for the 1987 tent. We appreciate the willingness of all volunteers that signed up to man the tent during the three days of the Open. We hope for the W.G.A. and Oscar Miles that next year will bring favorable weather to the Western Open and another M.A.G.C.S. Hospitality Tent.

Try to keep Friday night, October 23rd open on your schedules. M.A.G.C.S proudly announces the Fall Dinner Dance to be held at Riverside Golf Club. The Board of Directors has decided to have the fall dinner dance in lieu of the Fall Picnic this year. This is due to the response of many M.A.G.C.S. members stating they had missed the dinner dance the past few years. This is 'the' social event of the year for M.A.G.C.S. members and their spouses. The purpose is to get together after a long golf season and share an evening of fine food and spirits, a chance to socialize a bit, maybe cry on each other's shoulders a little, and just plain have fun. Hope to see many of you there, and don't forget to bring your best girl.

James E. Evans

1987 Candidates for MAGCS Board

The nominating committee presented the 1987-88 slate of condidates in the last **Bull Sheet** and we would like to take this opportunity to give you a short biography of each individual. In addition to this every member has the option of attending the October meeting at Woodstock C.C. where they can meet and question the candidates.

Slate of Officers

President - Mike Nass

Mike Nass has been a superintendent for the last ten years. After seven years of service at Bryn Mawr C.C. Mike recently took charge of the 27 hole complex under construction, to be called Cantigny Links. Mike is a certified superintendent who has served as President of the ITF and the Chicagoland AGCS. In addition to this Mike is currently the 1st Vice President of the MAGCS and has served as the 2nd VP and Director. Mike and his wife Jean have two children, Amy and Kerry. Mike's other interests include golf, reading, and cross country skiing.

1st Vice President - Dave Meyer

Dave Meyer has been superintendent of the Carson International golf course operation in Chicago for the past 18 years. For the past 12 years Dave has served as the Secretary-Treasurer of the MAGCS. Prior to this Dave also served as a Director for MAGCS. Dave's other interest farming, is highlighted by 23 years of serving on the DuPage County Fair Board and 20 years as a 4H leader. Dave and his wife Penny (Executive Secretary for the MAGCS) have four children, Brian, Heather, Austin and Kara.

1st Vice President - Al Fierst

Al Fierst has been superintendent of the Oak Park C.C. for the past 10 years. He is a graduate of Michigan State in Turf Management and holds an Industrial Education degree from Ball State. Al has served as a Director and is presently the 2nd Vice President of the MAGCS. For the past two years Al has also served as the voting delegate for our association. On the national level Al is a member of the Scholarship and Research Committee. Al is single and his hobbies include cycling, skiing, auto racing, golf, and women.

2nd Vice President - Bruce Williams

Bruce Williams is a Certified Golf Course Superintendent and has been at the Bob-O-Link G.C. for the past seven years. Bruce has served as a Director of the MAGCS for the past two years. Bruce is also a member of the CDGA Advisory Committee. The GCSAA Education Committee, and is a past president of the CAGCS. Bruce has also taught seminars for the GCSAA and the PGA. Bruce and his wife Roxane have two children.

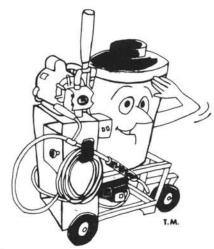
2nd Vice President - Dennis Wilson

Dennis Wilson is a Certified Golf Course Superintendent who has worked at Sunset Ridge C.C. for 16 years, serving as the superintendent for the last 10. Dennis has served as an MAGCS Director for the last year and a half. He has also been very active on several ITF committees. Dennis and his wife Pat have three children, Amy, Michael, and Megan. Dennis's outside interests include golf, bowling, working with the Cub Scouts, and school functions.

(cont'd. on page 4)



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Secretary-Treasurer - Roger Stewart

Roger Stewart is a Certified Golf Course Superintendent. Roger has been the superintendent of the Riverside C.C. for the past 9½ years. Prior to that he was superintendent of Midlane C.C. Roger is a Past President of the MAGCS having served in every capacity and on every committee possible. Roger is also a member of the CDGA Advisory Committee and serves as a Director of the CAGCS. Roger and his wife Susan have two children, Laura and Ann; with a third on the way. Roger's outside interests include trap shooting, hunting, and golf.

Secretary-Treasurer - David Behrman

David Behrman is a Certified Golf Course Superintendent. He has been the superintendent of the Deer Creek G.C. for the past 10 years. Dave is a Past President of the MAGCS also having served on every committee and in every capacity, for the past seven years. Dave and his wife Chris have two children, Zach and Ben. Dave's outside interests include golf, skiing and racquetball.

Nomination for Director:

Ray Schmitz

Ray Schmitz is a Certified Golf Course Superintendent. He has been the superintendent of Flossmoor C.C. for the past 10 years. Prior to this Ray was superintendent of Green Garden C.C. and Hickory Hills C.C. Ray has served as a Director of the MAGCS for the past two years and is also the official photographer for the **Bull Sheet**. Ray and his wife Jean have three sons. Ray's outside interests include computer science, bowling, and golf. Richard Hahn. Jr.

Rick is a Certified Golf Course Superintendent. He has spent the last 10 years as the superintendent of the Marriott's Lincolnshire Resort. Rick has a B.S. degree in Agriculture from University of Kentucky. Rick is single and his other interests include volleyball and distance bicycle riding.

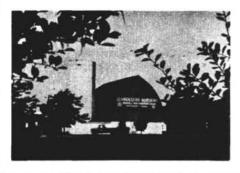
Joel Purpur

Joel has been the superintendent of Bartlett Hills G.C. for the past four years. Prior to this he worked at Glen Oak C.C. for five years, three of these as the assistant superintendent. Joel is a Penn State graduate in Turfgrass Management. Joel's wife's name is Debra and his outside interests include golf and snow skiing.

Sizes of Soil Particles

Lawn and garden soils are made up of particles that vary greatly in size. Sand particles are largest, but within this classification, the largest particles are some 40 times larger than the smallest. The medium sized particles are the silts and the smallest particles are the clays. If you imagine that a medium sand particle is the size of the White House in Washington DC, then relative to that, a silt particle would be about the size of a large limousine and a clay particle would be the size of an orange. A pound of medium sand will contain over two million particles, while a pound of silt contains over 2 billion and clay over 40 trillion particles. A pound of medium sand particles will have a total particle surface area of some 20 square feet. For silt, this surface area increases to about 220 square feet and for clay, there would be over 5,500 square feet. Within this soil medium of sand, silt and clay, lawngrass roots grow and obtain mineral nutrients.

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DACTHAL® is a registered trademark of S.D.S. BIOTECH *OFTANOL is a registered trademark of the Parent Company of Farben Fabriken-Bayer, GmbH. Leberkosen Editor's Note: This month we have three articles on pH in your spray solution. Two of our members have written an article on this subject and Dr. Paul Sartoretto has written the third. Each article has something different that none of the others have, so it does make interesting reading.

Effects of pH on Pesticide Sprays

If you have not checked the water you use as a carrier in your spray mixtures lately you might be surprised at what an effect its pH could have on the results of your pesticide sprays, particularly the organo-phosphate, carbamate and synthetic pyrethroid compounds. Fungicides are, generally, not as dramatically affected.

There are many factors that impact the half-life (time for a material to lose 50% of its effectivenesss) of pesticides including: pesticide chemistry, buffer capacity of water, water temperature, time of pesticide exposure in water, concentration of pesticide in water and water pH. Of these factors pH can have the most dramatic effect.

Lake Michigan water ranges between pH 7.5 and 8.5. If your spray water pH is higher than 7.5 it is alkaline enough to negatively affect certain pesticides. These pesticides are decomposed through a process called "alkaline hydrolysis". In short, the alkaline water triggers a chemical reaction that splits the pesticide molecule in half, rendering it ineffective.

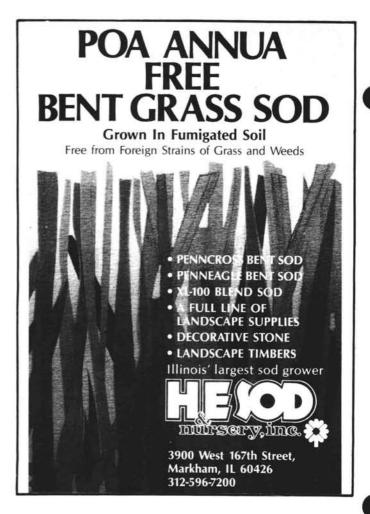
In some cases where highly alkaline water is combined with a sensitive pesticide the half-life can be as short as a few minutes. In other words, the chemical can lose its efficacy before it has even been sprayed out of the tank. In addition to loss of pesticide effectiveness all of the metallic salts (example: ferrous sulfate) will, unless chelated, undergo hydrolysis at pH's above 7.0 and end up totally inactive.

The way to alleviate this problem is to determine the pH of your water and then add an acidifying agent to lower the pH to an acceptable level (6.5 - 7.0) that will limit the rate of hydrolysis. Ideally, you should check and adjust your pH prior to adding the pesticide and then recheck pH after the pesticides have been mixed into the tank. These acidifying agents are very useful tools. Some examples are: phosphoric acid, ferrous sulfate, Cleary's acidifier, vinegar.

Although acidifiers will increase the half-life of pesticides while they are in solution they have little or no effect on material once it has reached the target area. One important thing to remember is to never mix an acidifying agent with a post-emergent herbicide. These chemicals are always alkaline, and if acidified they will be converted to useless water insoluable gums.

If you have a question on the effects of your water pH on a specific chemical, call the manufacturer and ask for the time for 50% hydrolysis (half-life value) at that pH.

Bob Maibusch Director, C.A.G.C.S. Credit: Verdure, 6/87



Effects of pH on Pesticide Half-Life

	P O	. Cottoide Hall Elle
Common Name	pH	Half-Life Time
Proxol (Dylox)	6.0	89 hr.
	7.0	6.5 hr.
	8.0	63 mins.
Malathion	7.0	7.8 hr.
	8.0	1 hr.
Sevin	7.0	24 - 30 days
	8.0	2 - 3 days
	9.0	3 hrs.
Betasan	7.0	27 plus hrs.
	10.0	21 plus hrs.
Diazinon	5.0	31 days
	7.0	184 days
	9.0	135 days
Dursban	5.0	63 days
	7.0	35 days
	8.0	23 days
Bayleton	7.5	7 days
Oftanol 2	7.5	30 plus days
Chipco 26019	7.0	9 days
	9.0	2 days
Benlate	7.0	1 hr.
	5.6	30 hrs.
Banol	9.0	1000 plus hrs.
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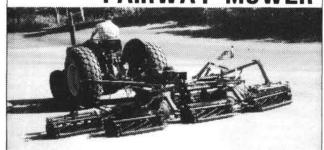
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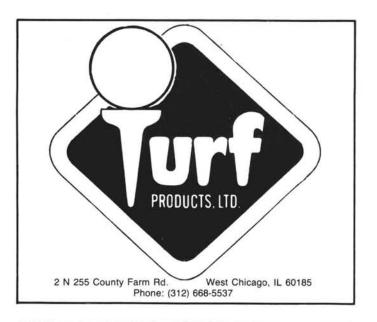
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Adjusting the pH in your Spray Tank

by Roger H. Ogalla BOJO Turf Supply Co.

Soil pH is one of the most important tools a turfgrass manager has. A specific pH range is needed to assure proper release of all the nutrients in the soil. In recent years the pH of the spray tank water has become more important to the turfgrass manager. A specific pH range is needed, but for other reasons.

Many golf courses are irrigating and spraying with water than has a pH of 7.0 or greater. This water usually contains large quantities of Calcium and Magnesium, better known as hard water. Alkaline hydrolysis or breakdown of many pesticides will take place under these conditions. Numerous pesticides, especially carbamates, organophosphates, and systemics lose their effectiveness in water with a high pH. This could explain the 10 days of dollar spot control out of a fungicide which should have given you 25-30 days of control.

How do you know if this is the case with your water? There are many laboratories in the Chicagoland area, which can give you a complete diagnostic review of your water, including a pH reading. In most cases your present soil testing service can also test your water. A quicker and easier way is to purchase your own kit or meter for testing water pH. Litmus paper can also be used, but it does not offer the accuracy or reusability of pH meters. These meters range cost from \$75-100 for pocket size models to several hundred dollars for table top models. The same results can be obtained by either type of meter. Another advantage of having your own meter is the option to test before and after pesticides and acidifiers are added to the spray tank.

How do you adjust the pH once you know it? Several products on the market are good for lowering the pH. Most of these contain either iron, phosphoric acid, sulfur, or a combination of these nutrients. The following charts illustrate various products and how they adjust pH or how they are effected by pH.

pH Adjustment Chart

Product	Approximate	amount per 100 gal.	
		to lower 1 pH point	
Balance	(Precision Laboratories)	8 oz.	
Iron Sulfate		18 oz.	
Ferromec	(PBI Gordon)	33 oz.	
Vinegar		53 oz.	
Sulfur F	(WA Cleary)	1.56 gal.	
Microgreen	(Rhone-Poulenc)	2 gal.	

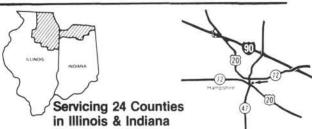
Effects of pH on Pesticides

Elle	cis or bur ou	resticides	
Chemical		pH	Half-Life
Daconil 2787	(Chlorothalonil)	6	6.8 hours
		7	1.2 hours
Diazinon		7	10 weeks
		8	8 weeks
Dursban	(Chloropyrifos)	7	35 days
		8	1.5 days
Proxol	(Trichorfon)	6	3.7 days
		7	6.4 hours
		8	63 minutes
Sevin	(Carbaryl)	6	100-150 days
		7	24-30 days
		8	2-3 days
Tersan 1991	(Benomyl)	5.6	30 days
		7	1 day

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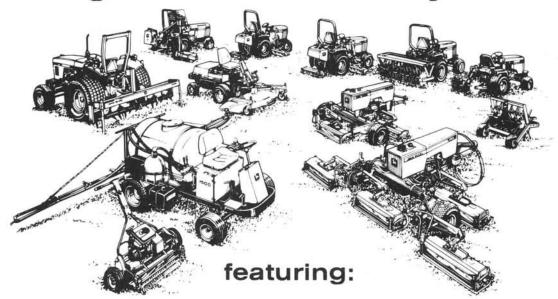
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