

# WGCSA



# GREEN SHEET

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OFFICIAL PUBLICATION OF THE WISCONSIN GOLF COURSE SUPERINTENDENTS ASSOCIATION, INC.

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## WHICH FUNGICIDES CONTAIN MERCURY?

GAYLE L. WOLF

EXTENSION PLANT PATHOLOGIST

OCTOBER, 1970

CONSIDERABLE INK HAS FLOWED OVER MERCURY CONTAMINATION PROBLEMS RECENTLY. GOLF COURSE SUPERINTENDENTS ARE AWARE OF THIS AND KNOW THAT CERTAIN OF THEIR DISEASE CONTROL CHEMICALS ARE SUSPECTED BY SOME TO BE CONTRIBUTING TO THIS ENVIRONMENTAL PROBLEM.

LEGAL ACTION IS NOW UNDERWAY WHICH WILL BAN THE USE OF MANY MERCURIALS USED FOR CERTAIN DISEASE CONTROL PURPOSES. AT PRESENT, THESE BANS WILL HAVE LIMITED EFFECT ON WHAT YOU CAN USE. HOWEVER, YOU QUITE POSSIBLY MAY HAVE TO REPORT WHAT CHEMICALS YOU DO USE - AND PERHAPS EVEN NOTIFY THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES IN ADVANCE! IT IS IMPORTANT THAT EACH GOLF COURSE SUPERINTENDENT BECOME EVEN MORE FAMILIAR WITH THE PRODUCTS HE USES. ALL FUNGICIDES REGISTERED IN WISCONSIN WHICH CONTAIN MERCURY, AND WHICH MIGHT BE USED ON WISCONSIN GOLF COURSES ARE INCLUDED IN THE LIST THAT FOLLOWS. THE LIST WAS BASED ON A LISTING OF ALL MERCURY-CONTAINING PESTICIDES REGISTERED IN WISCONSIN. THIS LIST WAS PROVIDED BY MR. HUBERT HALLIDAY, PLANT INDUSTRY DIVISION, WISCONSIN DEPARTMENT OF AGRICULTURE, WHOSE AGENCY HAS RESPONSIBILITY FOR MAKING SUCH REGISTRATIONS. THERE ARE ADDITIONAL PRODUCTS OFFERED ON THE MARKET ELSEWHERE. IF THEY ARE NOT REGISTERED WISCONSIN, HOWEVER, WE ASSUME THEY ARE NOT BEING USED HERE. FURTHERMORE, THE FACT THAT THEY ARE REGISTERED IN WISCONSIN DOES

NOT MEAN THAT THEY ARE ACTUALLY USED IN THE STATE! THE LIST IS BROKEN INTO THREE CATEGORIES: INORGANIC; PHENYL-MERCURY; AND "OTHER". THE LAST CATEGORY INCLUDES THOSE WHICH ARE EXPECTED TO BE BANNED FOR CERTAIN USES IN WISCONSIN. WE HAVE ALSO INCLUDED THE TECHNICAL NAMES, SO THAT YOU MAY HAVE THEM FOR YOUR RECORD, AND CAN CHECK AGAINST ANY LIST OF CHEMICAL RESTRICTIONS THAT MAY APPEAR AT A LATER DATE.

### INORGANIC MERCURIES

1. CHIPCO RHO-MOLD  
(RHODIA INC., CHIPMAN DIVISION)  
MERCUROUS CHLORIDE 1.8%  
MERCURIC CHLORIDE 0.9%
2. USS VERTAGARD  
(USS AGRI-CHEMICALS, INC.)  
MERCUROUS CHLORIDE 60.0%  
MERCURIC CHLORIDE 30.0%
3. CALOCURE  
(MALLINCKRADT CHEMICAL WORKS)  
MERCUROUS CHLORIDE 30.0%  
MERCURIC CHLORIDE 15.0%
4. CALO-CLOR  
(MALLINCKRADT CHEMICAL WORKS)  
MERCUROUS CHLORIDE 60.0%  
MERCURIC CHLORIDE 30.0%
5. VELSICOL 2-1 FUNGICIDE  
(VELSICOL CHEMICAL CORPORATION)  
MERCUROUS CHLORIDE 60.0%  
MERCURIC CHLORIDE 30.0%

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 WAYNE OTTO TOM SPAULDING  
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#### HACKERS AND DUFFERS

THE 14TH OF SEPTEMBER, 43 MEMBERS TOOK THEIR WILEY WOODS, ITCHY IRONS AND POLISHED PUTTERS TO WAUSAU COUNTRY CLUB FOR THE ANNUAL TOURNAMENT. WHEN THE DIVOTS ALL SETTLED TO THE TURF WE HAD A NEW LIST OF CLASS CHAMPIONS.

CHAMPIONSHIP FLIGHT - GIL BERGDOLL  
 CLASS A - CHARLES SHILEY  
 CLASS B - BILL SELL  
 CLASS C - MILT KARRELS

OUR BOGEY WINNER WAS ROGER SCHULTZ WITH 84. PRIZES WERE CONTRIBUTED BY THE MILWAUKEE SEWERAGE COMMISSION, HORST ENGINEERING REINDERS BROTHERS, WISCONSIN TURF AND THE WGCSEA. TROPHIES FOR THE CLASS CHAMPIONS WERE CONTRIBUTED BY AGRICO. THE PRIZES WERE GREAT AND I AM SURE THE MEMBERSHIP (ESPECIALLY THE WINNERS) IS VERY GRATEFUL TO THE CONTRIBUTORS.

THIS IS ALL FOR THE HACKERS AND DUFFERS FOR THIS YEAR. GOOD LUCK WHEN WE START PLAY AGAIN IN MAY 1971.

#### SOCIAL COMMITTEE REPORTS

THE NEXT SOCIAL EVENT OF THE YEAR IS THE ANNUAL DINNER DANCE. IT IS TO BE HELD IN OSHKOSH ON THE EVENING OF NOVEMBER 14 AT THE PIONEER HOTEL.

YOU ARE INVITED TO BRING GUEST COUPLES IF YOU WISH.

DINNER \$20  
 DANCE 20  
 OSHKOSH  
 PIONEER  
 HOTEL  
 NOV 14  
 TOP SIRLOIN  
 2 DRINKS  
 FLOWERS FOR GALS  
 DANCING

#### HINT FROM CHICAGOLAND

DO YOU HAVE PROBLEMS WITH HEAVY TRAFFIC WEARING PATHS RIGHT NEXT TO YOUR GREENS WHERE CART PATHS CANNOT BE INSTALLED? TED SOKOLIS (THE VILLAGE LINKS, GLEN ELLYN, ILLINOIS) HAS FOUND A WAY TO DISTRIBUTE THE TRAFFIC SO THAT A PATH IS NOT WORN IN ONE SPOT. TED USES STEEL REINFORCING RODS BENT IN THE SHAPE OF A GIANT STAPLE AS MOVABLE BARRIERS AROUND SOME OF HIS GREENS. THESE BARRIERS ARE TWO TO FOUR FEET LONG AND SIX TO EIGHT INCHES HIGH AND ARE PAINTED WHITE. AS ONE AREA BEGINS TO SHOW WEAR, TED PUTS A SERIES OF THESE BARRIERS OVER IT AND FORCES TRAFFIC TO GO AROUND THE WORN SPOT.

(FROM VENDURE - THE NEWSLETTER  
 OF THE CHICAGOLAND GCSA)

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MERCURY FUNGICIDES - FROM PAGE 1

PHENYL MERCURIES

1. TURFECT W/A  
(CERTIFIED LABORATORIES, INC.)  
10% PHENYLMERCURIC ACETATE
2. PMAS CRABGRASS KILLER AND FUNGICIDE  
(W. A. CLEARY COMPANY)  
10% PHENYL MERCURIC ACETATE
3. VERTAGARD 10% PMA  
(USS AGRI-CHEMICALS, INC.)  
10% PHENYLMERCURIC ACETATE
4. PHENMAD  
(MALLINCKRADT CHEMICAL WORKS)  
10% PHENYLMERCURIC ACETATE
5. VELSICOL PMA  
(VELSICOL CHEMICAL CORPORATION)  
10% PHENYLMERCURIC ACETATE
6. PROTurf - BROAD SPECTRUM FUNGICIDE  
(O. M. SCOTT AND SONS COMPANY)  
0.69% PHENYLMERCURIC ACETATE
7. TURF BUILDER PLUS 1  
(O. M. SCOTT AND SONS COMPANY)  
0.42% PHENYLMERCURIC ACETATE  
(+FERTILIZER)

"OTHER" ORGANIC MERCURIES

1. MORSODREN - LIQUID FUNGICIDE  
(NOR-AM AGRICULTURAL PRODUCTS, INC.)  
2.2% CYANO (METHYLMERCURI) GUANIDINE
2. PANOGEM TURF FUNGICIDE  
(NOR-AM AGRICULTURAL PRODUCTS, INC.)  
2.2% CYANO (METHYLMERCURI) GUANIDINE
3. DUPONT SEMESAN TURF FUNGICIDE  
(E. I. DUPONT DE NEMOURS & CO., INC.)  
25.3% HYDROXYMERCURICHLOROPHENOLS
4. MEMMI .8 EC  
(VELSICOL CHEMICAL CORPORATION)  
10% N-METHYLMERCURI-1,2,3,6-TETRA-  
HYDRO 3, 6-ENDOMETHANO-3,4,5,6,7,7-  
HEMZCHLOROPHTHALIMIDE
5. ACME PANOGEM TURF FUNGICIDE  
(SHERWIN WILLIAMS COMPNAY)  
2.2% CYANO (METHYLMERCURI) GUANIDINE
6. TERSAN O M  
(E. I. DUPONT DE NEMOURS AND CO., INC.)  
HYDROXYMERCURICHLOROPHENOL 10%  
(+ THIRAM 45%)

IN ORDER TO AVOID CONFUSION IT SHOULD BE EMPHASIZED THAT "CADMIUM"-AND "THIRAM"-FUNGICIDES ARE NOT MERCURIALS. SOME FORMULATIONS OF THESE POPULAR TURF FUNGICIDES DO INCLUDE MERCURIAL COMPOUNDS, HOWEVER. IT IS IMPORTANT TO READ THE INGREDIENTS ON EACH LABEL TO BE CERTAIN.

SINCE A NUMBER OF NEW, EFFECTIVE FUNGICIDES ARE NOW AVAILABLE, MERCURY TREATMENTS ARE NOT IRREPLACEABLE FOR MOST SUMMER DISEASE PROBLEMS - BROWN PATCH AND DOLLAR SPOT, FOR INSTANCE. IN FACT, IT IS DIFFICULT TO ARGUE AGAINST THE IDEA OF REPLACING THE MORE TOXIC AND/OR PERSISTENT MERCURY COMPOUNDS WITH SAFER, LESS PERSISTANT CHEMICALS WHERE POSSIBLE. OUR GREATEST PROBLEM IS FOR SNOW MOLD CONTROL. A NUMBER OF SUPERINTENDENTS AND CHEMICAL COMPANIES ARE COOPERATING WITH US ON A SNOW MOLD CONTROL INVESTIGATION THIS WINTER WITH OBJECTIVE OF IDENTIFYING SUBSTITUTES OR ALTERNATIVES FOR MATERIALS NOW IN USE. WE HOPE THE STUDY WILL BE OF VALUE TO THE GOLF COURSE SUPERINTENDENTS.

PLAYBOY CLUB - LAKE GENEVA

OCTOBER 12, WGCS MET AT THE PLAYBOY CLUB IN LAKE GENEVA. TOM BURROWS, OUR HOST SUPERINTENDENT, HAD 2 FINE 18 HOLE COURSES FOR US TO PLAY. BOTH WERE CHALLENGING AND OFFERED A CHANCE TO OBSERVE 2 DIFFERENT TYPES OF ARCHITECTURE.

THE JACOBSEN DEALERS OF THE AREA (HORST ENGINEERING, REINDERS BROTHERS AND WISCONSIN TURF) WERE OUR HOST. THERE WERE 134 PRESENT FOR DINNER WHICH WAS FOLLOWED BY OUR ANNUAL MEETING AND ELECTION OF OFFICERS.

JIM LATHAM INTRODUCED MISS CAROL MCCUE, EXECUTIVE DIRECTOR OF THE CHICAGO DISTRICT GOLF ASSOCIATION, AS OUR GUEST SPEAKER. MISS MCCUE'S REMARKS WERE BRIEF AND WERE CONCERNED MAINLY WITH INFORMING OUR MEMBERSHIP OF THE POSSIBILITY OF GOLF CHARTER TRAVEL. SHE BELIEVES ALL ASSOCIATIONS SUCH AS OURS SHOULD CONSIDER IT. GROUP TRAVEL AND GOLFING IN DIFFERENT COUNTRIES IS A WAY TO SEE OTHER PLACES AND MEET PEOPLE WITH SIMILAR INTERESTS. IT IS POSSIBLE TO TRAVEL FOR ABOUT 1/3 OF THE NORMAL COST IN THIS ARRANGEMENT.

## ELECTION OF OFFICERS

## ANNUAL AUDIT

WITH CHARLEY SHILEY IN THE ROSTRUM, A NEW SLATE OF OFFICERS WAS ELECTED.

THE RESULTS WERE AS FOLLOWS:

PRESIDENT	-	JAMES VERSTEGEN
VICE-PRESIDENT	-	ROGER SCHULTZ
SECRETARY-TREASURER	-	JERRY O'DONNELL
DIRECTOR	-	RAY KNAPP
DIRECTOR	-	TOM SPAULDING

THE AUDITING COMMITTEE REPORTED THAT THE BOOKS WERE IN GOOD ORDER. "THE ACCOUNTS EVEN BALANCED", CLAIMED CHARLEY SHILEY.

THE ASSOCIATION HAS 152 PAID MEMBERS IN 1970. OVER THE YEAR THERE WAS A NET LOSS OF \$27. AS OF OCTOBER 12 OUR CASH BALANCE WAS \$1,841.09 WHICH INCLUDED \$500 FOR THE SNOW EMERGENCY FUND.

## PLANTS BEARING POISONOUS FRUIT

■ DURING the late summer and early autumn the fruit of many plants ripen and their attractive appearance often tempts children especially to eat them. Youngsters should be warned against doing this for the fruit of some plants, both cultivated and wild, is poisonous. Poisonous plant fruits, as listed by the Pennsylvania Department of Agriculture, most likely to be found include the following:

The seeds of the red, berry-like fruits on yews or taxus, widely used as an ornamental evergreen. The orange-colored berries on climbing bittersweet, often collected for decorative purposes. The bright red berries of climbing nightshade, a weed plant often found in uncultivated areas in yards and gardens. The yellow, marble-sized fruits on horse-nettle. The dark purple fruits on pokeweed. The seeds especially of the thorny, apple-like fruit borne on jimsonweed. The seeds of the castor bean plant. Orange to red fruits on holly. Black fruits on the black nightshade. Brown nuts from buckeye trees.

(FROM SHADE TREE DIGEST - JULY 1970)

## Greenery—antidote to pollution

IT is reported that the percentage of carbon dioxide in our atmosphere is steadily increasing because of the burning of fossil fuels to generate electric power, run our automobiles and factories, heat and cool our homes. At the same time, more and more of the good earth is being covered by highways, parking lots and buildings of all kinds. This is unfortunate, since only green growth can metabolize excess carbon dioxide into growing plants, through the process of photosynthesis.

This raises the question whether there is a practical way to reduce the annual loss of crop land. One approach has been suggested by John Fischer in an article in the April issue of *Harper's*. He thinks that the next "Heroes of the Republic," may be those who plant trees instead of subtracting from our greenery with bulldozer and saw. And, in our opinion, he might have included as heroes those who plant and nurture grass, shrubbery and gardens.

Other positive action has been suggested, such as mandatory provision for minimum land-use ratios of greenery in any new land development for homes, institutions, office buildings, industrial sites and shopping centers.

Furthermore, wherever possible green belts should be installed along the nation's highways. The green leaves of trees and other plants attract and hold pollutant-laden dust particles which are washed into the soil to disintegrate into basic soil elements.

WHATEVER greenery you now have or plant in the future, the first essential in its life process is water. Next in importance in promoting lively green growth is fertilizer. "But doesn't that add nitrates to our ponds, lakes and underground waters," you ask, "and don't these nourish algae and other growth that chokes surface waters?" The answer is "no."

(FROM DIVOTS NEWS - OCTOBER 1970)

## Single Firm Opposes Ban on Mercury

United Press International  
Wyandotte Chemicals Corp. Monday was the sole witness against a proposed ban on dumping mercury into Wisconsin streams.

A company spokesman told a Natural Resources Department hearing that such a ban would "adversely affect industry and development."

OTHER INDUSTRY representatives testified that such a ban would make little difference since they either had ceased using mercury or found ways to prevent it from getting out into the environment.

Wyandotte's Port Edwards plant has been continuing to emit mercury ever since Gov. Warren P. Knowles ordered a portion of the Wisconsin River closed to fishing because of the high mercury content in fish.

The river has been reopened, but officials have warned against eating more than one meal per week of fish taken

from it. Portions of the Flambeau and Chippewa Rivers are also restricted because of mercury.

Michael J. Spector, Milwaukee, an attorney for Wyandotte, said too little is known about the possible hazards of mercury to warrant a halt to all mercury discharges.

HE SAID his company made a "massive and successful" effort to reduce the several pounds per day of mercury discharged to the current 226 pounds per day.

Robert Kusel, manager of product development for Marathon Batteries Co., Wausau, said his firm "has contributed to mercury pollution for practically its entire existence, which dates back to 1926."

However, he said, the firm has made changes that have reduced the mercury discharges to zero.

Abbott Byfield of the Kimberly-Clark Corp., Neenah, admitted that his firm on the Fox River had used mercury as a slimicide in the paper-making process as late as this spring, but he said the practice has been discontinued.

OCTOBER 12 THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES HELD A HEARING CONCERNING THE FATE OF MERCURY IN WISCONSIN. BILL ECKERT TOOK TIME TO ATTEND A PORTION OF THIS MEETING WHICH WAS HELD THE SAME DAY AS OUR OCTOBER MEETING AND REPORTED TO OUR MEMBERSHIP THAT EVENING.

THE MEETING WAS TO GATHER INFORMATION ON MERCURY IN WISCONSIN TO DETERMINE IF MERCURY USE SHOULD BE CONTROLLED OR ELIMINATED. IT SEEMED TO BILL THAT THE DECISION HAD ALREADY BEEN MADE AND THAT THE MEETING WAS JUST A FORMALITY. MOST OF THE INTEREST AT THE MEETING SEEMED TO BE SHOWN BY INDUSTRY.

ONE MEMBER OF THE COMMITTEE SAID THAT THE COMMISSION WOULD TAKE INTO CONSIDERATION THOSE PEOPLE OR GROUPS WHICH HAD TAKEN AN INTEREST IN EXPLAINING THEIR USE OF MERCURY. THOSE WHO DID NOT SHOW INTEREST IN EXPLAINING THEIR POSITION WOULD RECEIVE A VERY CONSERVATIVE VIEW BY THE COMMITTEE.

THEY WANTED A NUMBER OF QUESTIONS ANSWERED IN A WRITTEN STATEMENT WITHIN 30 DAYS. THESE QUESTIONS WERE:

1. WHAT MERCURY COMPOUNDS ARE STORED, USED, AND DISCHARGED BY YOUR COMPANY?
2. HOW ARE SUCH COMPOUNDS USED?
3. IN WHAT QUANTITIES ARE THEY USED?
4. WHAT MANUFACTURERS AND DISTRIBUTERS ARE INVOLVED?
5. WHAT EFFECT WOULD ORDERS RESTRICTING THE DISCHARGE OF MERCURY COMPOUNDS HAVE ON YOUR COMPANY AND ON THE USERS OF PRODUCTS YOU MIGHT MANUFACTURE?
6. WHAT WOULD YOU RECOMMEND TO REDUCE MERCURY DISCHARGE?

THEY ARE INTERESTED IN SOME IDEA ON WHAT RESTRICTIONS WE COULD LIVE WITH AND WHAT USES OF MERCURY WE WOULD STILL LIKE TO HAVE IN THE FUTURE. THIS IS A NEW PROBLEM AND THEY WOULD LIKE OUR BEST INFORMATION TO HELP WITH THE PROBLEM.

### NEW COMMITTEE FORMED

BECAUSE OF ALL THE PROBLEMS THAT ARE APPEARING WITH THE ENVIRONMENT, IT WAS SUGGESTED THAT WE HAVE A COMMITTEE TO KEEP UP WITH THE PROBLEMS. A MOTION WAS MADE, SECONDED AND PASSED BY VOICE VOTE TO ESTABLISH A PERMANENT COMMITTEE ON THE ENVIRONMENT. THE MEMBERS NAMED TO THE COMMITTEE ARE BILL ECKERT--MAPLEBLUFF C. C., RAY KNAPP--STEVENS POINT G. C., AND JERRY O'DONNELL--NAKOMA G. C.



### The Oxygen Giver

A blade of grass.

It is quiet. It has no moving parts. Yet in its growth process, it takes polluting gases from the air and returns pure oxygen.

In a season of active growth, the grass in a well-maintained lawn, 50 by 50 feet, liberates enough oxygen to meet the needs of a family of four day after day.

As it performs this miracle, grass also provides the basic food supply for animals and man. It does this by photosynthesis, using the energy of the sun to turn carbon dioxide, water and minerals into green growth.

Every lawnmower is making a worthy contribution of life-sustaining greenery.

ANNOUNCING  
THE 4th ANNUAL  
OHIO TURFGRASS CONFERENCE AND SHOW  
DECEMBER 7, 8 and 9, 1970

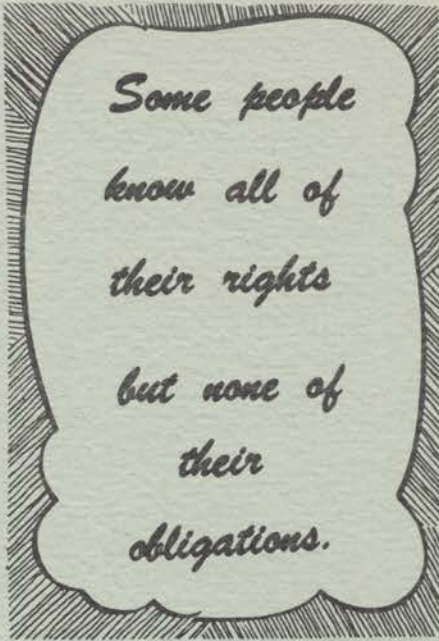
EDUCATIONAL CONFERENCE: 3 DAYS, 18 SPEAKERS

EQUIPMENT SHOW: 130 BOOTHS OF EVERY CONCEIVABLE TYPE  
OF TURF EQUIPMENT AND SUPPLIES.

MOWERS • TRACTORS • SPRAYERS

IRRIGATION • GOLF CARTS • CHEMICALS • FERTILIZERS

AND MORE



*Some people  
know all of  
their rights  
but none of  
their  
obligations.*

5<sup>TH</sup> ANNUAL TURF SYMPOSIUM  
CHEMICAL NATURE OF SOILS  
DFISTER HOTEL - MILWAUKEE  
DECEMBER 9 & 10

WGCSAA GREEN SHEET  
5013 ACADEMY DRIVE  
MADISON, WISCONSIN  
53716