



# The Bull Sheet

*Official Bulletin*

*Midwest Association of Golf Course Superintendents*

**ILLINOIS  
TURF GRASS  
FOUNDATION  
FIELD DAY  
SEPT. 16th**

**NEXT MEETING —**  
*Joint Meeting with  
The Wisconsin Chapter  
Rolling Green Country Club  
Monday, September 9, 1963*

TED WOHRLE, Editor,  
8700 So. Western Avenue  
Chicago 20, Illinois

---

OFFICERS

President - John Ebel  
1st Vice-President - Warren Bidwell  
2nd Vice-President - Al Johnson  
Secretary & Treasurer - Roy Nelson

DIRECTORS

Marv Gruening	Adolph Bertucci
Dudley Smith	Don Gerber
Anthony Meyer	Bill Brady

---

PRESIDENT'S MESSAGE

Dateline: July 14

Earlier this year a letter was mailed out to all voting members concerning our Association By-Laws. This letter was very well composed by our By-Law chairman Mr. Don Gerber. It invited each and every voting member to take part in re-evaluating our present By-Laws. It further stipulated step by step the actions that would follow any response from the membership.

One important sentence from Don's letter was, Quote: "The reason that we are undertaking a study of our By-Laws at this time is to allow sufficient time for thought and discussion and to provide an opportunity for all opinions to be considered." Unquote.

To date the response to Don's letter has been practically nil. Therefore we can only deduct that, 1. Everything about our By-Laws is O.K. 2. We are all too busy. 3. Let somebody else do it. 4. There's plenty of time.

As for the first, everything can't be O.K. because we hear complaints at almost every meeting. Complaints that can be solved only by By-Law revision. Secondly, we are all busy, but let's face it, we can't be that busy. Third, if we let somebody else do it then we must accept the results and not complain because we were not given the opportunity to have our say. Fourth, it is later than you think. To do a good job of evaluating all the suggestions submitted the By-Laws committee needs all the time it can get to prepare the information.

It has been asked that anyone with some ideas for By-Laws improvement please submit **in writing** his opinions. This is important because conversation over a friendly libation is not always efficacious and may soon be forgotten. It's everyone's duty and privilege to do this in order that we may fuction for the betterment of all our members. Don Gerber is waiting. So let's hear from you today. O.K.?

John Ebel, President

THE LATE MOLE

Al Hintz of White Pines Country Club has now taken up golf. After over 30 years of taking care of the courses at White Pines and Mohawk, Al now plays almost every day, at least nine holes. He commented "when you play, you seem to get into many places you never see when you are going around, now I see bad spots and get the men out to straighten them up right now." He had another comment to report about his game, "Seems my wife just doesn't want to be a golf widow." Watch it Al, women play golf too.

Howard Baerwald of La Grange Country Club has a series of water holes wandering through the course, some of them quite large and they always have water in them. So now Howard has run a pipe into the center of one little lake, capped it with a nozzle and has the La Grange Country Club version of the Buckingham Fountain. Howard's wife has given up her job with the telephone company and has now become a housekeeper. Last report was that she was loving it.

Charlie Wagoner, an employee on the grounds of the York Golf Club under Joe Simononi, a non-member, got hit on the side of the nose just under the eye early in July. The blow felled him. However Charlie says the worst part came when the doctor was setting the nose back in place. Since then, it hasn't bothered him.

The Mastroleos, the whole gang, Frank and his wife, Dave and Donna and the two kids came back home to Geneva early in July. They each had a different reason for making the trip. Frank and Mrs. Mastroleo because Frank's sister said she wanted to see them. Dave and Donna because they said Frank and Mrs. Mastroleo were homesick and wanted to see their many Illinois friends again, but they all were happy to be here, enjoyed every minute of their stay and had a leisurely return trip to Culver City, taking all of four days. Remember when they used to make it in three? They all like California. Dave loves his job at Fox Hills, and the kids are fine and healthy.

Plagued with everything a man can be bothered with gettin ready and during a National Tournament, Ted Woehrle did the district proud at Beverly last week in July, for the Western.

Some 8 inches of rain before the tourney started put several fairways under water. Extreme humidity and boiling heat during the meeting took the toll of grass and men, but through it all the spectators seemed to be completely unaware of the care and worry that prevailed at the barn. Even the extended play-off on Monday found fairways and greens beautiful and the exciting finish made the surroundings seem more beautiful.

---

LAST MONTH'S MEETING

The July Meeting of the Midwest Association of Golf Course Superintendents was held at the McHenry Country Club on Monday, July the 8th. Fifty-five golfers participated in one of this year's finest golf outings. Host Superintendent Harold Michels was the winner of the low gross award again. This is the second time this year. He had a respectable 73. The two best putters of the day tied with 26 putts for the eighteen holes. These were Bob Williams and Joe Dinelli.

Other winners for the day were: Rodney Voykin, Joe Dinelli, Mike Pollaci, Bill Sielli, Adolph Bertucci, West Updegraph, Paul Voykin, Ray Gerber and Bob Breen. Charlie Rack, Norm Barnes and Jock McIntosh also won prizes.

After a delicious dinner (and a few announcements) it was decided to dispense with the monthly business meeting. President John Ebel introduced the Educational Co-Chairman who in turn introduced the guest speaker for the evening, Dr. Harry Gunn. Dr. Gunn is a professional psychologist. His topic for the evening was a discussion of problems in our profession concerning relationships with the members of our respective clubs. He gave some tips on handling situations that might develop between us and the members of our clubs.

Here are some of the points that were made by Dr. Gunn:

- Faulty communications can be blamed for most of the problems that exist.
- Members generally look for excuses for not scoring. The course usually receives the blame for errors that he made.
- Keep out of minority struggles.
- If you have a griper in your club, listen to him - let him talk as long as he wishes. Usually he will make himself more vulnerable and eventually he will hang himself.
- Let a griper talk, it makes him feel more important.
- Tolerate without getting in the way.
- People usually rally around the person that is being picked on.
- Keep members informed. Publicize your program.

- Gripers usually discredit themselves.
- When Clubs are compared they are usually compared unfavorably.

**LOCAL NEWS**

It was good to see Al Purvey, long time Superintendent of McHenry Country Club, present in the group. Ira Jury from Rockford was also present after a long absence.

Harold Michels introduced the Club President, Mr. Harold Miller, and his Chairman of Grounds Committee, Mr. Frank Roark. They both welcomed us with kind words. Mr. Roark made fun of John's beard.

**WASHINGTON and TORONTO (C15) STOLONS**  
**SOD FOR ANY SITUATION**  
 MERION AND KENTUCKY BLUE GRASS,  
 CREEPING BENT, FESCUE OR  
 MEYER (Z52) ZOYSIA

**WARREN'S TURF NURSERY**  
 8400 W. 111th STREET :-: Phone: GIBSON 8-7200  
 PALOS PARK, ILLINOIS

**GRASS SEED FOR BETTER TURF!**

**GEORGE A. DAVIS, INC.**  
 5440 Northwest Highway - Chicago 30, Ill.

**THE SEQUESTERED FERTILIZERS**    **FERTIL-ADE and AQUA-SOL**

For 15 years Golf Course Superintendents have relied on Fertil-Ade or Aqua-Sol for Better Greens that stay Better.

**FERTIL-ADE, LIQUID**

No. 1 10-8-6  
 No. 2 10-8-6 with extra chelated iron.  
 No. 4 15-0-7½  
 No. 5 15-0-7½ with extra chelated iron.

**INSTANT AQUA-SOL**

25-10-20 This ratio of analysis scored "Most Likely for best growth of lawns, trees and flowers."

Distributed by: George A. Davis, Inc. - R. L. Ryerson  
**SMITH EQUIPMENT and SUPPLY CO.**  
 1615-21 N. Central Ave. • Chicago 39, Illinois

## PRECISION BLENDED TOP DRESSING

Custom blended to your specifications  
by our modern equipment

*Buy when you need —  
Eliminate costly storage*

We sell an air dried, uniform and  
free flowing top dressing

ASK THE MAN WHO HAS USED IT.

HUMUS — BLACK SOIL

## HENRY FRENZER

CR estwood 2-0290  
2-5267

3425 Techny Rd.  
Northbrook, Ill.

### PATRONIZE OUR ADVERTISERS

#### Nels J. Johnson, Tree Experts, Inc. ESTABLISHED 1930

Complete, economical tree service for home owners, private estates, parks, municipalities, golf courses, cemeteries, schools, industrial areas.

— FULLY INSURED —

All phases of Arboriculture — pruning, treating, transplanting large trees, fertilization, hydraulic and mist-spraying. Aerial tree surveys. Correct diagnosis and cost estimates by graduate, licensed arborists and foresters.

#### MAIN OFFICE

912 Pitner Avenue - - - - - Evanston, Illinois  
Phones GREENleaf 5-1877 or GREENleaf 5-5255

#### FIVE ELLUMS ARBORETUM

144 Walnut Drive - - - - - Libertyville, Illinois

— PHONES —

EMpire 2-1121

FAculty 5-0970

## MILORGANITE

USED AND PREFERRED BY  
GOLF COURSES EVERYWHERE

## WEATHER

After an extended period of drought, we in the Chicago area were deluged over a period of eight days with a total of up to 10 inches of rain. On the eve of July 13 it began to rain and it continued to rain off and on for eight days. The southwest side of the city was hit with three rains of over 2 inches each.

Much of the turf remained under water for several days. Hot humid weather prevailed for several days after the rain. Many of the low areas now have dead grass in them. Disease in the form of Pithium was quite prevalent for almost a week. Large areas of fairway turf have been thinned out. Greens are sick. Hungry turf was attacked by Dollar Spot. All in all, most of the courses that received over four inches of rain are suffering through some type of trouble directly related to the excessive rain. Beverly Country Club, Calumet Country Club, Ravisloe Country Club and Idlewild Country Club had several feet of water in many of the areas on their courses.

Some Superintendents reported success in combating Pithium with Parzate. Others spot treated the worst areas with Dyrene and had fairly good results. Some of our top Agronomists suggest Acti-Dione Fertilized mixed with Captan. Some of the old timers recall 1955 when similar conditions were present and whole fairways died in the matter of a few hours. Let's hope that this year is not as severe as 1955.

The official weather bureau announces that we have had 15 days of temperatures of 90 degrees or higher. The hottest day was July 1 when it reached 99 degrees. The far south side reports 21 days of 90 or higher with the hottest day being July 1 at 103 degrees. The far North side (along the 4 mile strip adjacent to Lake Michigan) reported 11 days of 90 degrees and higher with the hottest day as July 1 at 93 degrees. The mean temperatures between North and South varied as much as 15 degrees on seven of these days. The biggest influence of course is the Lake and its breeze. When there are stiff breezes from the Southwest, temperatures are pretty uniform throughout the area.

## AGRICO® Country Club Fertilizers and AGRINITE®

### NEW

Professional fertilizers for professional turf grass management

AGRICO COUNTRY CLUB 12-4-8 (50% Organic Nitrogen)

AGRICO COUNTRY CLUB 10-6-4 (25% Organic Nitrogen)

AGRICO COUNTRY CLUB 16-8-8

Manufactured by

The American Agricultural Chemical Company

Fulton -2211  
FULTON, ILL.



## TRAFFIC ON THE GOLF COURSE

by Lee Record, Agronomist  
USGA Green Section

The use of the golf course as well as public parks or other recreational facilities of this nature is on the steady incline, a hard fast incline, with little relief in sight in which to help ease the flow of traffic. Supply and demand is not easily reached.

Every 8 seconds a new birth takes place, and every 21 seconds a death. Every 2 minutes a new immigrant comes into our country. This is the trend of the flow of traffic which is taking place today.

Increased numbers of golf players have been witnessed this year, with an open season on the number of rounds which might be consumed in one playing day or season. What are the limitations of such facilities? Is there no end?

With this steady incline of traffic, many golf clubs and parks throughout the country, which at one time had adequate area to meet the demands of the people at large, are out dated. It's hard to realize and understand how a 1920 golf course, which was built for 50 rounds of golf a day or possibly a week, is taking the punishment trying to keep up with 200 rounds being played daily, or 10-1200 rounds a week. The club house has kept up with the traffic in many cases. It is not uncommon to see a 1962 style club house with a 1920 golf course.

The three hour average time for playing a round of golf is in the past . . . it is not uncommon any longer to spend up to 5 hours on the course to complete your game, and, how many days are required in advance to have a confirmed starting time for a Saturday morning match? We can add here . . . how many public parks must you pass before you can find a picnic bench or how long a wait do you have in a traffic line before you can get into the beach area . . . and then find the room to enjoy yourself? Regardless of the situation one is facing, one still has to face the traffic problem.

Traffic leads to compaction of the soil. In the case of the golf course, the most severe area to be dealt with is the putting green. Here is an area in which you are trying to maintain turf at a height of cut which is not always possible to maintain, the desired height throughout the entire playing season. Adverse conditions makes it impossible to maintain the high quality of turf which is required at all times. Members of their respective clubs expect perfection of their turf. They will not accept bare ground or concrete conditions of the soil as a substitute for turf or playing conditions. Traffic is one of the reasons causing this additional adverse condition.

Have you ever realized the damage that takes place on a green from the stand-point of the player's golf shoes? The average pair of shoes has 24 spikes. Now let us say that in holing out the ball, 30 steps are required in doing this. Multiply these two numbers (24 x 30) and you come up with 720 impressions per green. On an 18 hole basis you would average 12,960 impressions . . . this figure is for one person.

If we had 50 rounds of golf a day we would have 648,000 impressions. If we had 200 rounds a day, we would have 2,592,000 impressions. Let's take these figures on a 30 day basis. For 50 rounds a day on a 30 day basis we would have 19,440,000 impressions. For 200 rounds a day on a 30 day basis we would have 77,760,000 impressions. These figures not only indicate what traffic can do, but what

it is causing. The above figures only indicate an average of 30 steps per green . . . the next time you are on a green, count the number of steps taken . . . I'm sure you'll find 30 steps a conservative figure.

With this additional foot traffic on the course, less time is available for maintenance work to be done. The days and weeks are too short to keep up with the traffic and the damage that traffic is causing.

The volume of traffic on the golf course and public parks have led to many undesirable conditions of play and relaxation. Increased foot traffic on turf has added to help destroy turf.

We have spoken of foot traffic, yet we cannot forget the electric and gas golf carts. These carts are not helping the traffic problem in most cases. The carts are causing compaction, they are creating new roads on the course which must be maintained. These carts are going to create new rules of the roads, that is, if you can get the drivers to respect the rules which must be enforced in using these vehicles. Many accidents take place each year with the misuse of handling vehicles. One person was killed while operating one of these carts last year. License plates are required in many cases at many clubs throughout the country when a cart has to go across or go parallel with a country, state or village road going from one fairway to another.

The number of motorized carts are increasing at most every course, it is not uncommon to find 25-50 carts. In some of the Southern and Western States the total number of these motorized vehicles go as high as 150 or more per course.

With the increased number of carts, turf management has become a problem in the locations where these carts are being used extensively. When you can't grow turf, when resodding doesn't do the job, what alternative is left but to build or construct paths for these motorized vehicles to travel on. Today more blacktop paths are being installed to take care of the cart traffic. Blacktop seems to be the leading material being used around the country. Many shapes and sizes of design are being used in the construction of these paths.

These paths may range in length from 50 feet up to the entire length of the fairway. The paths are mainly in the rough areas and between the green and tee areas.

Whatever the case might be for establishing these paths you should take into consideration the usefulness these paths will make in the case of flood control or erosion, and also for use by maintenance equipment. The design and construction of these paths should be looked at closely and carefully. If we have to have them, let's get the most advantages out of them. In building these roads or paths get the best advice available when at all possible. You can't do a successful job with limited knowledge.

Foot traffic, motorized cart traffic, and also the hand cart traffic is taking a toll on turf, more of a toll than we like to admit.

What is this traffic problem leading up to? First of all we must consider the most adequate turf management program to meet this traffic problem. We must plant a program which will utilize the available materials at hand with the least amount of resistance.

Bruising of the turf and wilting of the turf are two of the main problems of concern with traffic on top of this to compound the problem. To maintain turf the crown and root of the plant must not be destroyed.

The rate that the soil is compacted the slower the root growth. Weeds, insects and disease are always worse on irrigated turf where traffic is the heaviest. Under heavy traffic you must irrigate to bring about the recovery even though this practice adds to even more compaction.

Keeping up with a thorough job of aeration or cultivation and topdressing is most desirable to keep the thatch population down. Do not force feed your putting green turf at the wrong time of the season, or for that matter any turf. Good quality turf is not one which is green for the sake of getting it green too early in the season. Limited fertilization is required in the summer months (July and August) if none at all. Water management is the key at all times to maintain the quality of turf which will not suffer from mismanagement of watering practices. Too much water

will bring disease and too little water will bring wilt. Here many times we must spike our greens in the summer months to allow enough water penetration to help the turf survive.

Surface and internal drainage is an important factor in your turf management program. Green renovation might be ideal here in reaching maximum conditions for good management practices.

The fertilizer program is important from the standpoint of nitrogen timing. The solution, I'm sure, would be in using the RIGHT amount of the RIGHT kind at the RIGHT time.

Keep up with your soil analysis. Know what your soil is in need of to reach ideal growing conditions.

## The Right Approach ... to Your Turf Problems

# CHIPCO

WEED KILLERS • INSECTICIDES • FUNGICIDES

*Specially Formulated  
for Golf Courses*

### A BROAD LINE

Includes over 20 turf pesticides for protection and improvement of fairways, greens and driving tees. High quality and effectiveness are backed by 50 years' experience in manufacturing weed killers and other products. Use CHIPCO brand in your 1963 turf maintenance program!

ASK YOUR SUPPLIER OR  
SEND FOR PRODUCTS BULLETINS

## CHIPMAN CHEMICAL CO.

Dept. G., Bound Brook, N. J. or 608 S. Dearborn St., Chicago 5, Ill.

# JACOBSEN

FIRST ON THE GREEN —

— FIRST ON THE TEE

## ILLINOIS LAWN EQUIPMENT, INC.

14750 La Grange Road - U.S. 45  
Orland Park, Illinois

FI eldbrook 9-8484

Bob Johnson

FOR THE FINEST IN TURF MAINTENANCE SPECIALTIES  
Manufacturers of Liquid Fertilizer Since 1939

"LIQUA-VITA" 15-10-5

15-3-8

12-4-12

The Original Liquid Plant Food for Turf  
Does a Fine Job — Costs Less

FUNGICIDES

INSECTICIDES

HERBICIDES

WETTING AGENTS

AMERICAN LIQUID FERTILIZER CO., INC.  
and

ROKEBY CHEMICAL COMPANY

P.O. Box 267 - Marietta, Ohio - Phone: FR 3-1394

ASPHALT DRIVEWAYS - PARKING LOTS - ETC.  
"Golf Course Work a Specialty"

## LEMONT PAVING CO.

(RAY MURPHY TRUCKING)

115th & Archer Ave. (Rt. 4-A) — Lemont, Illinois  
RAY MURPHY CL earwater 7-6701



MORE AND MORE MID-WEST GOLF COURSE SUPERINTENDENTS  
ARE SWITCHING TO IMC FERTILIZER PRODUCTS. YOU, TOO,  
CAN ENJOY OUTSTANDING RESULTS AT NO INCREASE IN COST.



Our Turf Specialists Are At Your Service!

INTERNATIONAL MINERALS & CHEMICAL CORP.

Skokie, Illinois

Phone YO 6-3000

Pin placements on greens and tee markers should be moved frequently, keep the wear and tear down on localized areas.

Winter injury plays a big role in the compaction of turf for summer's play. Temporary winter greens . . . or stress periods of the year should be looked at, as one way in reducing the compaction on greens. In extreme cases of stress, greens should not be played on, but are in most cases. Many factors should be looked into in more detail to see which area of your turf management program you may emphasize or de-emphasize to meet more desirable requirements from the standpoint of play and traffic.

Secondly . . . often many times the instructions for a good caddy are overlooked with the caddies doing entirely too much gathering on the greens and tees. It might be most advisable to have a good relationship between the caddy master with his instructions to the caddies, as to what a caddy should and shouldn't do. I have seen in many cases that the caddies stand off to one side of the tee as the player tees off, might not the caddy be 200 yards down the fairway looking after the ball in the landing area or what have you . . . thus we would have less compaction in this particular area. Secondly, on a approach shot to the green and after landing on the green it might be more advisable in this area for the caddy to give a putter and a wood or iron desirable for the next

hole to the player and then the caddy would be able to be waiting at the landing area for the next shot from the tee . . . this would mean a lot less wear around the green, and from green to tee. This might not always be practical, I'm sure in many instances this would work quite satisfactorily, maybe not on the entire course, but on several holes. This is just another area to look at as a way in helping to reduce unnecessary traffic.

Today's traffic leads us to tomorrow's problems . . . today's turf management program will lead us in the direction of helping to solve these problems . . . we can add to them or can help correct them. Plan ahead in long range programming . . . try and keep one step in front at all times . . . traffic is here to stay and so is the game of golf.

### WHAT IS A WEED?

Just exactly what is a weed? Many people have their own opinion and own definition of what a weed is. I like this one. Weeds are non-useful plants growing where they are not wanted. Most families in the plant kingdom contain undesirable species of plants. Weeds vary in form and growth habits. Many weeds are herbaceous independent plants, like the dodders;

## ROSEMAN

2620 CRAWFORD AVE. UNIVERSITY 4-1842  
EVANSTON, ILLINOIS

### TURF MANAGEMENT TOOLS

<b>AERIFIERS</b>	HI-SPEED VERTIFIER
TRACTOR DRAWN	VERTI-CUT
TRACTOR MOUNTED	POWERED SPIKER

WEST POINT PRODUCTS

SALES ● SERVICE ● PARTS

## MILLBURN Peat Moss

**SAVES TIME! SAVES MONEY!**

PROMPT DELIVERY ON BULK TRUCKLOADS

Write, wire or phone CEntral 6-4246 for details  
MILLBURN PEAT CO., INC., 111 NO. WABASH AVE., CHICAGO 2, ILL.

### TORONTO C-15 SOD and STOLONS

(Grown on sterilized soil with seedheads removed)

Merion and Kentucky Bluegrasses

**SURE-GRO**  
Plant Foods

}	12-6-6 Organic Base
	12-6-6 16-8-8
	10-6-4 5-10-5
	10-10-10 10-3-7

*H. & E. Sod Nursery, Inc.*

4301 W. Flossmoor Rd.  
SY camore 8-2210 Tinley Park, Ill.

*Proper Feeding Produces Top Turf . . . . .*

### ARMOUR PRODUCES A PLANT FOOD FOR EVERY TURF FEEDING PROBLEM

**VERTAGREEN** 10-8-6 For Professional Use

**VERTAGREEN** 10-6-4 For Turf & Trees,  
Containing Organics

**VERTAGREEN** 12-3-6 Turf Formula  
With U-F and Natural  
Organic Nitrogen

**VERTORGANIC** 8-5-7

Choose the one that's best for your needs, and you can be sure of healthy, well fed turf.

### ARMOUR AGRICULTURAL CHEMICAL COMPANY

Chicago Heights, Illinois

East St. Louis, Illinois

others are vines, shrubs or trees, such as poison ivy and mesquite.

Basically there are three types of weeds:

**ANNUALS** live only one year; produce a crop of seed and die. They spread primarily by seeds and should be destroyed before seeds form. Control is easiest when weeds are small.

**BIENNIALS** live for two years, producing seed the second year. They spread chiefly by seeds. Biennials, like annuals, are controlled during the first year of growth to avoid seed formation.

**PERENNIALS** live for three years or more. They spread by seeds, rootstocks, bulbs and other vegetative growth. Perennials are the most difficult to kill. Many noxious weeds are perennials.

Different types of chemical weed killers are available for various uses — each with its advantages and limitations: **NON-SELECTIVE** weed killers destroy or damage all vegetation and should not be applied on or near desirable plants. Under some conditions non-selective weed killers can be used for selective weeding by adjusting the dosage and the manner of application to prevent injury to desirable plants. **SELECTIVE** weed killers control only certain weeds and may be used in crops resistant to their killing action.

### CALIBRATION OF SPRAY EQUIPMENT

Proper calibration of spray equipment for field spraying is necessary for successful application of weed killer chemical. The following factors should be considered — all of which can be varied within the limitations of the equipment available.

1. Nozzle spacing 2. Nozzle orifice size 3. Pump pressure 4. Forward speed of sprayer.

For determining forward speed where certain galonage per acre is desired and forward speed can be varied, this formula may be used:

MILES  $\frac{495 \times \text{gals per min. per nozzle}}{\text{PER HOUR} = \text{Nozzel spacing in ft.} \times \text{gals. per acre}}$

Example: How fast should sprayer travel if each nozzle delivers 0.067 gallons per minute; the nozzle spacing is 1.67 feet, and 5 gallons of spray is desired?  
 $\frac{495 \times 0.067}{1.67 \times 5} = \frac{33.17}{8.35} = 3.98$  (or 4) Mile Per Hour

For determining gallons per acre where the forward speed of sprayer is constant, and gallons per acre can be varied, this formula may be used:

GALS.  $\frac{495 \times \text{gals. per min. per nozzle}}{\text{PER ACRE} = \text{Nozzle spacing in ft.} \times \text{miles per hour}}$

Example: How many gallons per acre will be sprayed

if each nozzle delivers 0.067 gallons per minute, the nozzle spacing is 1.67 feet, and the desired speed of travel is 4 miles per hour?

$$\frac{495 \times 0.067}{1.67 \times 4} = \frac{33.17}{6.68} = 4.98 \text{ (or 5) gals. per acre.}$$

## PATRONIZE OUR ADVERTISERS

### PAUL E. BURDETT

Seed - Fertilizers & Golf Course Supplies

**Agrico Fertilizers**

**Rainbird & Nelson Sprinklers and Valves**

**Myers Pumps - Johns Manville Pipe**

**E. I. DU PONT & CHIPMAN CHEMICALS**

Sole Distributors of **HYDRAULIC FEEDERS**

We Also Recommend Frenzer's Top Dressing

P. O. Box 241, Lombard, Illinois — 627-0232  
 Paul W. 627-0282 Jim 629-0223

- MERION and KENTUCKY BLUEGRASS
- C-15 SOD and STOLONS
- PENCROSS BENT SOD

**DEARIE and STRUD SOD NURSERY**

or **Thornton's Turf Nursery**  
 R. R. 2 - Box 72 - ELGIN, ILLINOIS  
 SH erwood 2-5030

**PHONE: HUNTLEY 2452**

**LOUIS SCHACHTNER**

*Distributor*

**BLACK DIAMOND HUMUS SOIL**

**HUNTLEY, ILLINOIS**

TA lcott 5-1495

Have Stumper - Will Travel

**STUMP CUTTER**

From Stump To Shavings At Real Savings

No stump to dig or pull No large hole to fill  
 No stump to haul

Otto E. Georgi 516 N. Northwest Highway  
 State Licensed Tree Expert Park Ridge, Illinois

A complete source of

**TURF MAINTENANCE SUPPLIES**

INTEGRITY — QUALITY — SERVICE



**KAHN BROS. CO.** Boulevard 8-0640

**PETER A. STEPHENS COMPANY**

**Certified BT Penn Cross Bent Seed**

**BUY NOW AND SAVE**

BE 8-4428