

JANUARY 1985



# A PATCH of GREEN

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# LIGHTWEIGHT MOWING OF GOLF COURSE FAIRWAYS

Over the past four years there has been a slow but sure swing towards cutting Fairways with Lightweight 5 & 3 Gang Mowers and in many cases even picking up clippings. This is probably the most controversial subject raised at superintendents meetings. Some for, some totally against and many more undecided waiting to see more evidence of the benefits before making a decision.

The information to follow is based on conversations with superintendents in various parts of the country who have adopted these methods and although they are approximate may help us to understand the pro's and con's of the task.

The main areas concerned with Lightweight and picking up clippings, is the cool season grass area. The Midwest, some Eastern States, Southern Ontario and Quebec, in fact, the areas where Poa Anna makes up the major part of the playing surface, due to the grass being shallow rooted, the consistent high temperatures and low rainfall in summer is likely to die out at the most inconvenient time. I am sure most will agree to the last statement after coming through the Summer of '83.

There are other places around the country where Lightweight Mowing is an important consideration for example; on courses where the soil structure is prone to compaction and those which receive high amounts of rainfall causing the Fairways to become soft and more likely to be damaged by heavy machinery, for instance the Pacific Northwest.

Let us first of all consider the benefits of Lightweight mowing.

## 1) REDUCED-TURF DAMAGE/ COMPACTION

A Five Gang Machine weighs around 2,900 pounds, half that of a normal 7

Gang and a 3 Gang (Triplex) can weigh as little as 850 pounds approximately  $\frac{1}{3}$ th the weight of the larger unit. The smaller units have power drive to the reels which do not rely on draw bar pull as do ground drive or trailing type and thus the tractor drive wheels are less likely to "spin out" on a slope or in a wet spot.

## 2) PRECISE MOWING/CLEANER CUT

The power driven reel can be speeded up or slowed down to obtain the clip rate required for the job. They can easily be reversed for backlapping, to insure the blades are sharp at all times. The units are narrower because the drive wheels are eliminated and so the mowers can go down into the hollows and yet not scalp over the mounds. One word of warning however, not all machines have a floating head which limits them to the smoother or level style of Fairway. A floating head is one which follows the contours of the ground independent of frame work or the position of the tractor unit.

## 3) ABILITY TO MOW IN DIFFER- ENT DIRECTIONS/CROSS MOWING

The smaller unit is more maneuverable and can cut against the "grain", which is caused by only cutting in one or two directions. Cross mowing helps the grass to stand up upright and insure the same length eliminating the unfair lay in the middle of the Fairway.

## 4) ABILITY OF COLLECTING CLIP- PINGS DURING THE MOWING OP- ERATION

Some lightweight machines can be fitted with grass catchers or baskets. Clipping removal is said to lower the temperature of the surface ground by eliminating the "soilage effect", (the decomposition the clippings which generate heat) relieving stress during periods of high temperatures. Collecting clippings also removes Poa Anna seed heads, which over a

CONTINUED PAGE 14

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## A Whole New Look for Our Certification Program

In their first draft, the committee attempted to make major changes in the program, respective to the criticism that many members have voiced over the young life of the certification program. They proposed future minimum education requirements beginning with an associates degree or equivalent, escalating to a bachelor of science degree or its equivalent by the year 2005. This approach should end the criticism of no educational requirements. Another criticism has been that only "textbook" knowledge is necessary to become certified. The G.C.S.A.A. Committee has come up with some changes to make entering the program a little tougher. One area where they suggest a change is eligibility. Their plan is to, in the future, require an applicant to have completed an internship under a class "A" professional superintendent, and in the year 1995 making only C.G.C.S.'s mentors of interns.

There is also a requirement in the rough draft that each applicant be attested and recommended by two current C.G.C.S. or by two club officials. This is one part of the draft that I believe will be dropped or changed prior to approval. I do not think it is workable to have superintendents inspecting other superintendents to see if their course is good enough for them to enter the certification program.

For those of you who are currently C.G.C.S.'s, they propose dropping the renewal exam and requiring 15 C.E.U.'s every five years. Not only are they planning to make the entrance requirements tougher, but you have to work to stay in the program.

There are many other points mentioned in their rough draft that I didn't touch on, that are equally important, such as:

- 1) Going to a closed book exam
  - 2) G.C.S.A.A. offering all of the C.E.U.'s needed to enter the program and continue in the program
  - 3) Regional and chapter educational programs will be assigned a C.E.U. value
  - 4) College credits can be transferred to the program
  - 5) The G.C.S.A.A. educational programs are to be submitted for accreditation, which will assure the universal acceptance of our C.E.U.'s
- The entire certification will be, in the very near future, going through a face lift. The look may not be exactly as proposed in the rough draft, but it will definitely be improved. When all changes are in place there will be a media blitz to promote the program so anyone connected with golf will know about the program.

Our certification program has been the subject of much criticism, some of it was justified, however, I believe that the forth coming changes in education and eligibility requirements, will successfully put to rest most of the criticism I have heard. You must remember that no matter what requirements are finally decided upon, no matter how strict they are, being a Certified Golf Course Superintendent does not guarantee performance and only the superintendent's employer will be the judge of his, or her, performance. I strongly believe that, if given the chance, this revised program will benefit us all by providing the means that a superintendent can use to help make himself more valuable to his employer and a better professional turfgrass manager.

J. Michael Hart, C.G.C.S.

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# GRASS RESEARCH

The Golf Course Superintendents Association of America and the United States Golf Association have joined together in a joint effort to raise funds to support turfgrass research.

GCSAA supports the unprecedented research project initiated by USGA to develop and produce quality golf turfgrass that will thrive with minimum water and maintenance. GCSAA President James W. Timmerman, in a message to superintendents, said, "Accelerated research leading to the development of grasses that are drought tolerant, less costly and easier to maintain are crucial to golf's survival."

The first phase of this research is being implemented in 1984 through a \$332,000 commitment by the USGA. Over the next ten years, \$5 million will be needed to accomplish this much needed research.

GCSAA and USGA are jointly urging their members and all others interested in the future of golf to contribute to this research to insure that green golf courses and the game of golf will always be a part of our lives.

"It is really important to us in working with GCSAA on this joint project. It is the greatest cooperative effort ever between USGA and GCSAA — it is truly a new era. The joint project is important, not only to us, but the cementing force is what it will bring to the future of golf," so said William H. Bengueyfeld, National Director, USGA Green Section.

The members of the Baltusrol Golf Club, Springfield, N.J., felt so strongly about this research and fund raising effort that each member will donate \$2.00 annually to the USGA Turfgrass

CONTINUED PAGE 13

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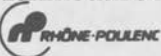


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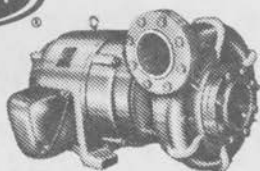
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## Grass Research, Cont.

Research Program. A jointly-signed letter by GCSAA President James W. Timmerman and USGA President James R. Hand has been sent to all golf clubs via the golf course superintendent urging each to consider donating funds to this vital research program in much the same manner as the Baltusrol Golf Club.

The USGA Green Section's Turfgrass Research Committee developed the plans and recommendations for this Turfgrass Research Program. GCSAA's Associate Executive Director James C. Prusa, CGCS, is a member of this committee.

Individuals or organizations interested in supporting turfgrass research may wish to contact Mr. Don Spencer, USGA Golf House, Far Hills, N.J. 07931 for further details on this joint effort.

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### Lightweight Mowing, Cont.

period of time may reduce the Poa and increase bent grass which due to its better root structure is more tolerant to heat.

Both of these points at present are still only theorys as there has not to my knowledge been any scientific study on the subject, however, it is true superintendents picking up clippings have found it unnecessary to syringe when clubs around them have had to and the population of bent grass has increased by a large percentage.

### 5) SMALLER MACHINE/LESS CONSPICUOUS

The smaller units are less of a nuisance to the golfer and it is possible to work closer to him or get out of his way faster enabling the work to carry on without "too much" effect on his game.

### 6) AESTHETIC APPEAL

The striping effect from the narrower cutting machine is very noticeable and as the Golfer stands on the tee it gives him an idea of what he is up against. Definition such as undulations, curves are more pronounced and this may add to the game.

These are the main points for Lightweight Mowing. The apprehension is primarily due to the cost involved. Here is a breakdown and explanation of costs of the different methods, the figures are approximate and should only be used as a guide.

### COMPARISON ACRES PER HOUR ASSUMING

7 Gang Machines cuts 15 feet less 6 inches overlap = ' 6" @ 5 miles per hour (1 mile = 5,280 feet)

1 Hour = 26,400 Feet

14.5 Feet Area Cut in one hole = 382.800 Square Feet

1 Acre = 43,560 Square Feet therefore  
7 Gang cuts 8.8 acres per hour less 10% for turning and moving from Fairway to Fairway = 7.9 acres per hour which means a golf course with 30 acres of

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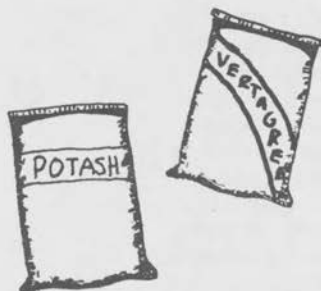
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(MORE ON PAGE 17)



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#### Lightweight Mowing, Cont.

Fairway takes 3 hours and 48 minutes to cut with one machine.

5 Gang Machine cuts 11 feet 6 inches less 6 inches overlap = 11 feet @ 5 miles per hour

1 Hour = 26,400 feet

11.0 Feet Area cut in one hour = 290,400 Square Feet

Therefore 5 Gang cuts 6.7 acres per hour less 8% for turning and moving from Fairway to Fairway (note smaller unit requires less time than 7 Gang) = 6.2 acres per hour which means a golf course with 30 acres of Fairway takes 4 hours and 48 minutes with one machine.

3 Gang Machine cuts 5 feet 9 inches less 3 inch overlap = 5' 6" @ 4 miles per hour

1 Hour = 21,120 feet

5.5 Feet Area cut in one hour = 116,160 Square Feet

Therefore 3 Gang cuts 2.7 acres per hour less 5% for turning and moving from Fairway to Fairway (note smaller unit requires less time than 7 or 5 Gang) = 2.5 acres per hour which means golf course with 30 acres of Fairway takes 12 hours to cut with one machine or 4 hours with 3 machines.

3 Gang Triplex Picking Up Clippings = 5 feet 9 inches less 3 inches overlap + emptying grass catcher (note assume machine travels 500 yards before it needs to be emptied and it takes 4 minutes to empty) therefore grass catchers will be emptied 14 times per 2.5 acres cut. 14 x 14 min = 56 minutes = 1 hour 56 minutes per 2.5 acres = 1.3 acres per hour which means a golf course with 30 acres of Fairway takes 23 hours with one machine or 5 hours 45 minutes with four machines.

#### DISPOSAL OF CLIPPINGS

It is difficult to arrive at an average cost figure for disposal of clippings as the methods vary from course to course. This is however a fairly substantial percentage of the total cost and should be taken into account.

CONTINUED PAGE 18



ANTICIPATION



MEAGAN KURLAND — DID SHE WIN?



LOOKS LIKE FUN

The Methods Are:

- A. Scattering clippings into rough.  
 B. Emptying clippings into pile and picking them up later with a sweeper /vac type machine.

- C. Emptying clippings into a cart towed by mower. Some clubs are using garbage contractors to haul accumulated clippings to a land fill site approximately two times per month.

METHOD	LIST PRICE	DEPRECIATION YRS	PER YR	MAINTENANCE PER YEAR	ACRES PER YEAR
7 GANG	1 MACHINE	7			
	\$32,000		\$4,571	\$1,648	2250
5 GANG	1 MACHINE	7			
	\$25,000		\$3,571	\$1,238	2250
3 GANG	3 MACHINES	4			
	\$22,725		\$5,681	\$ 750	2250
3GANG W/CATCHERS	4 MACHINES	4			
	\$31,360		\$7,840	\$1,000	2250

ACRES PER HOUR	HOURS PER YEAR	OPERATOR \$5.00 PER HOUR
7.9	285	\$1,425
6.2	363	\$1,815
2.5 x 3		
7.5	300	\$4,500
1.3 x 4		
5.2	433	\$8,654

GALL FUEL PER HOUR	FUEL PER YEAR	TOTAL COST PER YEAR
1.2	\$410	\$8,054
0.9	\$392	\$7,016
.72 x 3		
2.16	\$778	\$11,709
.72 x 4		
2.88	\$1,496	\$18,990

1. List Prices may vary as they do not include shipping and tractor price, was estimated at time this study was written.
2. Acres cut per year = 30 acres cut 75 times per year = 2,250
3. Fuel per year = Gasoline or Diesel = 1.20 per gallon
4. Depreciation years is not an indication of how long the machine will last it is a fair period on which the equipment could be purchased on a lease agreement.

differences in cost between the different methods. The practice of cutting with a Triplex and picking up clippings may be an alternative available only for the larger Country Clubs which demand the finest playing surfaces. Only a few years ago a Golf Course was commented on by the condition of its Greens, now with the modern methods of maintaining greens it may be the Fairways which are coming more under the eye of the Golfer.

#### CONCLUSION

There is no doubt there are major

David Legg  
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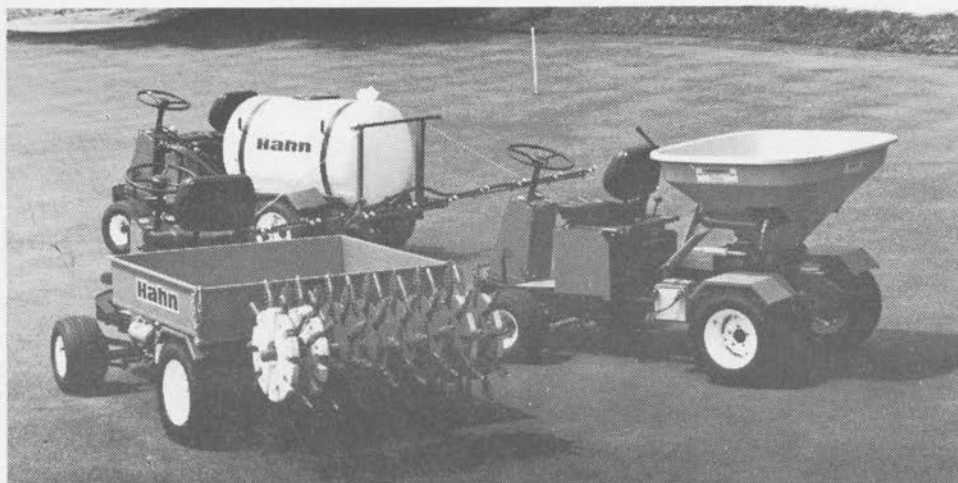
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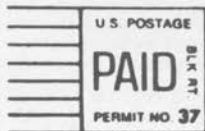
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