



*The results of Ray Knapp's  
"Sand Bunker Survey" are in!*

# THE GRASS ROOTS



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## SAND BUNKERS

By Ray Knapp

Before starting to write this article, I would like to acknowledge the series of events that led me to start a bunker survey. One Saturday last fall, a member of Tuckaway's Board mentioned to me that he thought that Tuckaway has the poorest traps in the Milwaukee district. I did not make much of this, but it got me to thinking of what I could do in the long run to change his mind.

In January the North Central Turfgrass Association had the final day of its program devoted to bunkers. One of the speakers, Fred Opperman from the Glenn Oak Country Club, gave a presentation based on a survey of 17 clubs in the Chicago area on bunker maintenance and construction cost.

With the notes that I took at Peoria, I made up a similar survey of Wisconsin golf courses. The results noted in this article are based on a return of 14 surveys of the 20 that were sent to Milwaukee area Golf Course Superintendents, my assistant and Jim Latham of the USGA Green Section. The survey and its results are printed at the end of this article.

I'm going to give my opinion of the maintenance part of the survey. Everyone could interpret the results differently. I will skip some of the questions because they did not appear to be significant. Carl Grassl of Bluemound Country Club will interpret the results of bunker construction.

Responses to the square footage questions were similar to

my own. Only 50% of the Superintendents that responded knew the area of traps on their golf course. Frankly, nearly everyone admitted that they either hadn't recently or hadn't ever measured the bunker area. I had assumed, based on construction blue prints, that we had 112,000 sq. ft. of sand at Tuckaway. After going out and measuring the traps, I came up with 187,000 sq. ft.! Thus the results of this question may have limited value. It is interesting to note that Fred Opperman's results from the Chicago clubs were similar to those of Wisconsin's.

The next question dealt with the number of times per week that the traps were raked. It was surprising to me that many excellent clubs were raking only 3 to 4 times per week. I had been raking traps 6 or 7 times each week and just assumed this was a common practice. Now I have some good points of discussion for my Grounds Committee on Tuckaway's raking practices.

I was surprised by the range of average labor cost per hour. The range was \$3.35 to \$5.25 per hour. Many clubs start out their seasonal employees in the \$3.35 to \$3.75 per hour range. Apparently many clubs are able to retain their workers and give them yearly advances. In nearly all cases, the second and the third year worker will do a better job when properly supervised.

At Tuckaway, for a 10 to 12 year period, we knife-edged our sand bunkers more than once per year. More than 5 man-hours were spent

per trap. Suddenly I realized that our traps have increased nearly two feet around the entire edge. We are now back to a more conservative edging.

On the question of how frequently sand is added to bunkers, there were some interesting answers. Most clubs added sand on a yearly basis or as needed; however, a few clubs didn't add any sand. For the clubs that have added sand for an extended period, a key to making this possible is having flat traps, proper drainage and the right sand particle size. (Continued on page 35)

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