

How the Modern Ball Plays

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GOLF COURSE ARCHITECT

In the Spring, 1949, issue of the USGA JOURNAL, John D. Ames, Chairman of the USGA Implements and Ball Committee, wrote an article on the present length of the ball as compared to its pre-war length. The comparison was based on tests made at the Armour Institute by the USGA in 1941 and again in 1948 with some 6,000 balls at variable temperatures.

Increase Indicated

It was Mr. Ames' conclusion that there might possibly be an increase in the length of the ball over its pre-war level and that this could be due to the use of improved materials.

The manufacturers, however felt that there had been no increase.

Before the USGA Open Championship at Canterbury in 1940, I became interested in the idea of testing the length of the drives of the players in the field as a determining factor in the placing of traps and the designing of greens in golf courses. In order to do this, I requested the privilege of making these tests during the tournament. Consent was readily given, and it was pointed out that the USGA was also very much interested in the results of these tests.

We chose the fifth hole at Canterbury Golf Club, near Cleveland, for the test, this being the most level hole on the course from the tee up to the 290-yard mark. At this point, a slight hill made the hole run uphill. Since the majority of the drives were unable to reach the incline, the test was made under what we think were fairly normal conditions.

An effort was made to keep an accurate tabulation of the wind direction and its approximate strength as a factor in aiding the drives during the various periods of the day. No attempt was made to do this with mechanized equipment for the accurate measurement of the wind velocity: it was done more by "feel" as

to whether the wind was slight, medium, or hard. The result of these tests showed that the average drive for the complete field during the second day of the championship at Canterbury was 253.4 yards.

We have recently made another check of the complete field in the 1949 Open Championship at the Medinah Country Club, near Chicago. This check was made on the 10th hole, which is perfectly flat. It so happened that a boundary fence along this hole made it possible to check accurately every 10 feet of the drive. For this reason it was also possible to check both the flight and roll of the ball, which was not done at Canterbury.

The condition of the fairway turf was about the same as it had been at Canterbury, though possibly it was a trifle harder. The wind on the 10th hole came constantly from one direction, from the back of the tee, therefore aiding the drive. The variation in the wind according to our best guess was 5 to 15 miles an hour, and it came sometimes in gusts. During the course of the day the survey was made, there was a constant breeze aiding the tee shot.

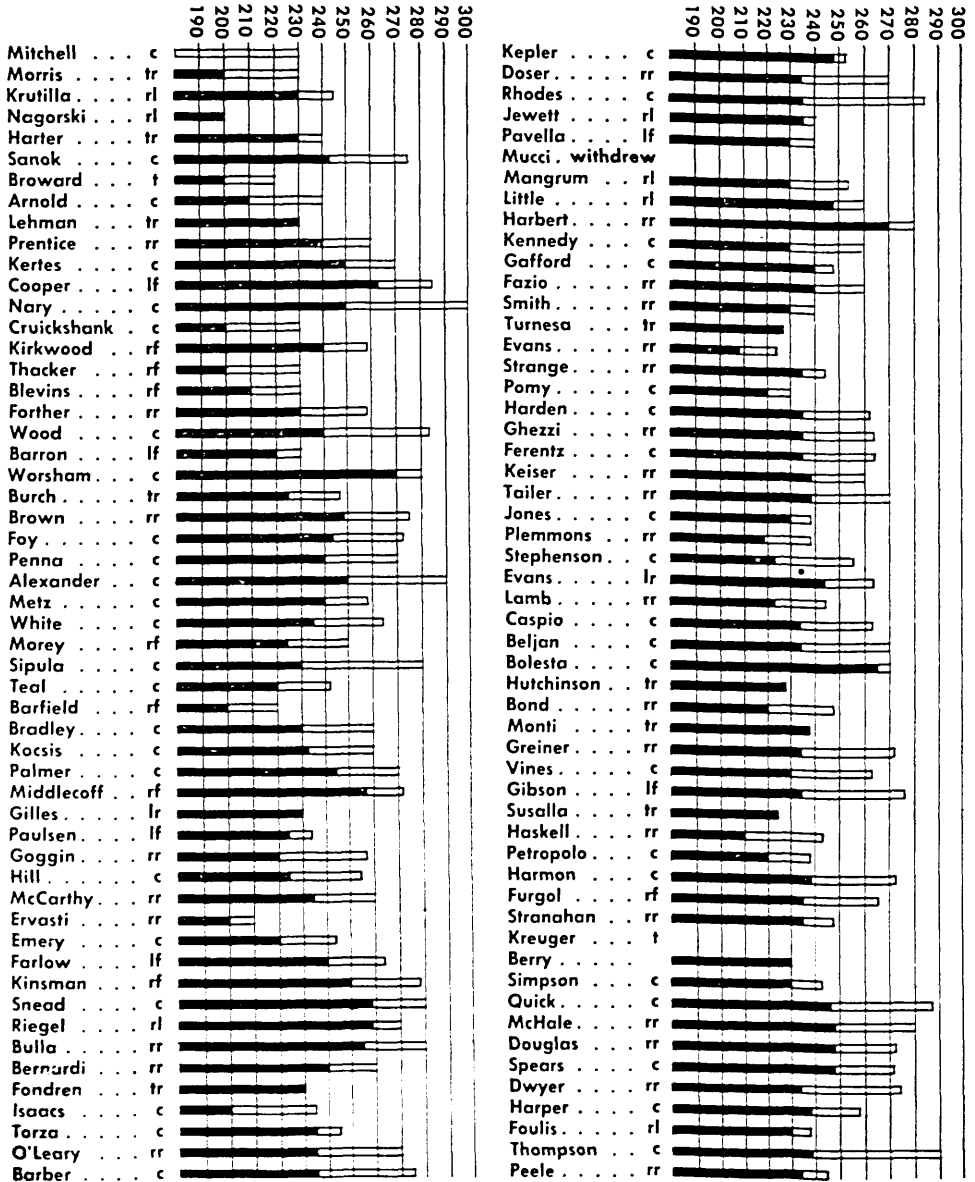
The average length of the drive for the whole field on the first day of the Championship at Medinah was 260.2 yards. The flight of the ball for the field was 231.9 yards. Shots that were under 215-220 yards were not counted, as these were not indicative of the normal tee shots of players of this caliber.

Shots that split the center of the fairway averaged 263.5 yards, and the average flight of these drives was 233.9 yards.

Certain players obtained a much longer roll than others, but the type of swing of these players had a bearing upon the carry and roll. For example, the long hitters, Jimmy Thomson, Chick Harbert and Skip Alexander, have swings of the type that give a high trajectory,

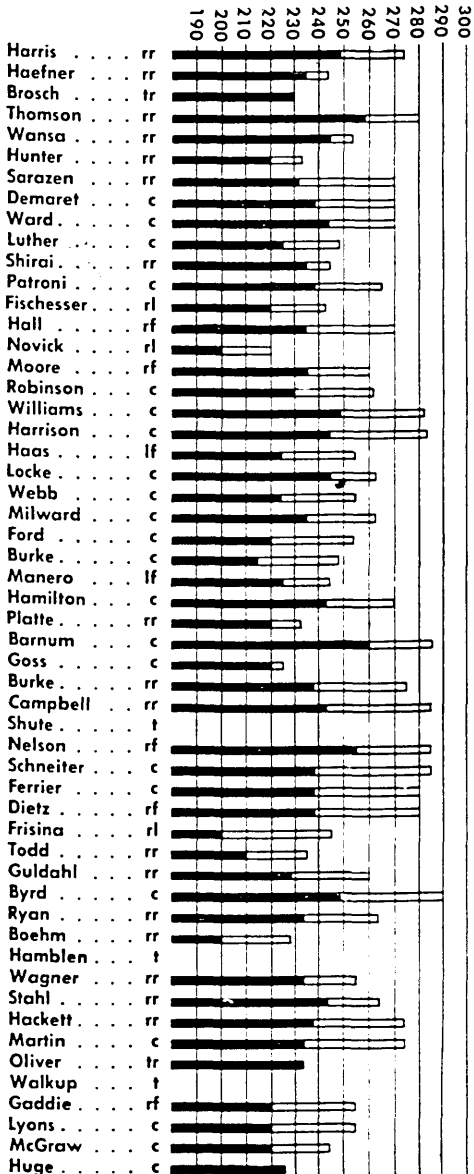
49th OPEN GOLF CHAMPIONSHIP OF U.S.G.A. *Medinah Country Club—No. 3 Course, Medinah, Ill.*

COMPARATIVE DISTANCES OF DRIVES—FIRST ROUND—JUNE 9, 1949:
MEASURED ON 10th HOLE



LEGEND

CARRY ——— rr—RIGHT ROUGH
 ROLL ——— rl—LEFT ROUGH
 c—CENTER FAIRWAY tr—TRAP ON LEFT
 rf—RIGHT FAIRWAY t—TOPPED
 lf—LEFT FAIRWAY AVERAGE DRIVE—260.2 YDS.



and their shots had very little roll. Players with swings of the type of Claude Harmon's, more upright swings of the closed-face school, obtained longer rolls.

The accompanying chart will give a clear idea as to the number of hooks and slices and the number of balls that went into the trap, 230-240 yards from the tee.

According to our statistics, there is an increase of seven yards in the length of the average drive between the test made in 1940 at Canterbury and the test made in 1949 at Medinah.

The machine tests made by the USGA indicate a slight increase in the distance of the ball, which could account for this difference.

There are other variables that might have a bearing on the difference, such as the slight differences that might have been brought about by the velocity of the wind. This was pointed up the second day of the 1949 Championship when, during a dead calm, a check was made on 20 players who had played the day before. During this period with no wind, the drop was about eight yards per player. This of course would not account for the difference between the Canterbury check and the Medinah check, for in both cases there was an aiding wind.

The length of the cut of the grass and the hardness of the ground could also be variable factors, but from the appearance and feel of the turf it is our opinion that this variation was very slight.

It may be possible that longer hitters are now qualifying for the Championship in the various sections of the country, although this theory should not be given too much credence.

The design of the hole might tend to offset this difference slightly, although it is our opinion that, with these two particular holes, this is not the case. Both holes adapted themselves to free, lusty swings.

It was interesting to note that as far as the low scoring players and the name golfers of the country are concerned, they are all in the big-hit category, as can be seen by the accompanying graph.