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professional approval

Famous Golf Professionals the country over enthusiastically endorse Folda-Fairway as the first *mechanical* device that will positively reduce your handicap and consistently lower your scores. *Available in both left and right-handed models.*

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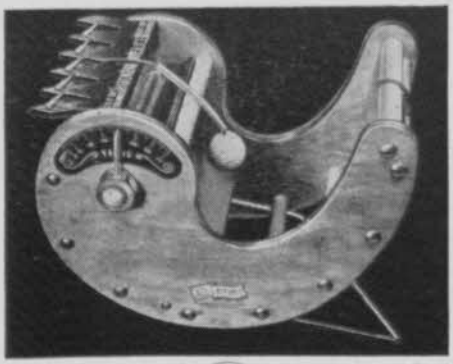

Folda-Fairway

Golfdom's Mechanical Marvel! Accurate, Sturdy, Portable, Safe. Engineered, developed and *approved* by famous pro golfers, Folda-Fairway is a patented precision instrument that makes fun out of practice. Sets up anywhere and by accurately recording distance *and* direction, converts the faulty swinger into a low handicap stylist. Hit them longer . . . hit them straighter. Groove your swing *at home* with the sensational Folda-Fairway! *Immediately available through your Golf Professional.*

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A statement to Professionals on

TOP-FLITE

SYNCHRO-DYNED GOLF CLUBS

We knew we had something big when we produced the first Top-Flite Synchro-Dyned Clubs. Twenty-five years of club-making experiments had never turned up anything close to it before. But, frankly, we didn't expect things to move quite *this* fast.

Last year during the advance tryouts we purposely leaned over backwards, took a "show me" attitude, muffled any fanfare. But it's pretty hard to hide day-after-day sensational performance.

As one guinea pig golfer after another swung the "mystery clubs" and found he was controlling shots in a way he'd never done before . . . as word got around that something wonderful had happened to *make golf easier*, then there was no holding back.

Today Top-Flite Synchro-Dyned Clubs are breaking every sales record in our history. We have stepped up production for the fourth time. Still we are obliged to allocate certain shipments.

Orders are flooding in. And re-orders. Both for woods and irons. As you know, iron sets normally outsell woods 3 to 1. With Synchro-Dyned Clubs you have an unprecedented opportunity to make wood sales. A golfer sold on the big advantage of "every club with identical contact feel" isn't taking any chances on his old woods upsetting his new game. He wants the works – irons *and* woods.

The best part of it all is that Synchro-Dyned Clubs are here to stay. They'll grow and grow because they're basic all the way. Founded on an entirely new scientific formula that controls the centers of gravity of every club in the set so that they are in absolutely coordinated sequence. *It's never been done before!*

Top-Flite Synchro-Dyned Clubs are basic, too, in their appeal. They remove an undeserved hazard from the golfer's game, enable him to play with natural skill he never knew he had. Because they make it easier for every player to score better, he talks about it to his friends. The circle widens, creating new converts to the game and to Synchro-Dyned Clubs. Everybody has more fun, including you. Fun! Profits! What's more basic than that?

SPALDING
SETS THE PACE IN GOLF

Report on National Crabgrass Control Tests in 1952

Coordinated by W. H. DANIEL
(Turf Specialist, Purdue University)

Constantly the technology for the improvement of turf advances as industry and experiment stations join in testing many materials offered for weedy grass control. This report is a summary of cooperative efforts in testing materials and procedures available for chemical control of smooth crabgrass, **Digitaria ischaemum,** and hairy crabgrass, **Digitaria sanguinalis.**

A published article, "National Coordinated Crabgrass Trials," by Radko, A. M., and Grau, F. V., Golf Course Reporter, March 1952, gives the results of the 1951 studies. In those studies definite conditions of rates, number of applications and frequencies were specified. In some experiments the early germinating crabgrass was controlled only to have reinfestations which became equally undesirable. In their conclusions the authors pointed out that there was a best time and a best set of conditions for each of the herbicides tested.

In 1952 reports were received from these cooperators:

Chappell, W. E., Virginia Polytechnic Institute, Blacksburg, Va.

Cornman, J. F., Cornell University, Ithaca, N. Y.

Davis, R. R., Dept. of Agronomy, Ohio Ag. Expt. Station, Wooster, O.

Finnerty, D. W., Agronomy Dept., University of Nebraska, Lincoln, Nebr.

Lee, O. C., Dept. of Botany & Plant Pathology, Purdue University, Lafayette, Ind.

Musser, H. B. & Gallagher, J. E., Dept. of Agronomy, Penn. State College, State College, Penn.

Quinlan, L. R., Dept. of Horticulture Kansas State College, Manhattan, Kans.

Robinson, B. P., Georgia Coastal Plain Experimental Station, Tifton, Ga.

Since crabgrass germinates after the nights become warm in late spring, pre-emergence treatments at that time to inhibit germination in turf areas were investigated. Davis in Ohio began treatments (shown in Table 1) on May 15. However, the most crabgrass germinated after a rain on July 3, and only in some replications was the dichloral urea treatment better than no treatment.

Also pre-emergence treatments by Lee and Daniel of Purdue, using Dinitros, Chloro-IPC and an emulsion formulation of Chlordane, showed no reduction in seedling crabgrass plant counts. (However, this phase of crabgrass control is recommended for further study.)

To date the most common type of chemical crabgrass control has been the repeated use of selective sprays. Treat-

Table 1. The effect of pre-emergence sprays on subsequent crabgrass infestations in bluegrass turf. Average of 4 reps. by Davis, R. R., Ohio, 1952.

Material	Rate	Number of Applications	Percent Crabgrass in Area, Sept. 29
No Treatment	.....	..	28
Dichloral Urea	5 lbs./A	3	16
PMA	5 pts./A	3	22
Chlordane Emulsion	10 lbs./A	1	23

Table 2. Results and cost of crabgrass control per 1,000 sq. ft. for 3 treatments 12 days apart. Davis, R. R., Ohio, 1952.

Material	per 1,000 sq. ft. Total Used	Cost*	Crabgrass in Area, September 29 First spray July 17	First spray Aug.12
PMA,10%	3 fl. oz.	.65	4	0
PMA, 0.74%	9.6 lbs.	3.11	9	4
KOCN, 91%	8 oz.	.85	2	0
NaAs03, 91%	1 oz.	.02	4	0
No Treatment	.....	.....	36	47

* Average of 4 distributors' prices in 1952.

Table 3. Percent of crabgrass in bluegrass turf* on August 19, 1952. Treated July 16, 21, 25, Aug. 1, 5. Daniel, W. H. & Lee, O. C., Purdue.

Material	Per 1,000 sq. ft. Total Used	Per 1,000 sq. ft. Cost**	Percent of Area August 19 Crabgrass	Percent of Area August 19 Bluegrass	Percent of Area September 15 Crabgrass	Percent of Area September 15 Bluegrass
PMA, 10%	.7 pt.	1.30	1	83	1	91
PMA, 0.74%	13 lbs.	4.29	6	79	2	85
KOCN, 91%	1 lb.	1.70	1	57	1	86
No Treatment	.....	.....	91	6	61	30

* Very heavy early crabgrass growth.
** Average of 4 distributors' prices in 1952.

ments started after the crabgrass is well germinated (3-leaf stage) but before it has developed competition for the bluegrass would be called early summer control. Under these conditions tests indicate one should use the rates recommended on the container or lighter and treat weekly until every crabgrass plant is dead. Otherwise new growth from surviving plants will be as obvious as before.

Tables 2, 3 and 4 show the relative cost of materials for midsummer treatments and the amount of crabgrass compared to non-treated areas. In Table 2 data of Davis shows that his August series of spraying were more effective than the July series for controlling crabgrass. However, the more rainfall and more favorable weather for new bluegrass growth was of greater importance than the difference in time of spraying according to Davis.

In Table 3 data is given on rather larger plots where a heavy crabgrass population was treated until killed. Not three but five applications were required which made the cost per 1,000 sq. ft. more than that shown in Table 2. However, on September 15 bluegrass recovery was 85% or more of the turf on treated areas and only 30% on the untreated areas. All plots were watered and fertilized adequately.

Data from Finnerty, Chappell and Quinlan show close agreement with Tables 2 and 3. Only when the interval between treatments was greater than ten days or the treatments less than three have the chemicals listed failed to show positive results as spray applications.

Table 4. The number of crabgrass plants per sq. ft. on July 15 following treatments on June 23, July 1 & 8 on watered bluegrass turf. Quinlan, L. R., Kans.

Material	Number of Crabgrass Plants per sq. ft.
PMA, 10%	6
KOCN, spray	2
KOCN & MCP	2
Chlordane in Oil	2
No Treatment	30

Much of the homeowner demand for crabgrass killers comes only after the plants are producing seed and growing profusely. Then the need is to burn back the crabgrass, uncover the bluegrass for fall recovery.

Five stations reported tests using Milcyanate, a 3% potassium cyanate dust mixed with 97% Milorganite fines. Table 5 shows from 20 to 100 percent of the existing crabgrass killed by two applications made on damp turf. Further, very little leaftip burn on bluegrass has been observed. Since late season (after Labor

Table 5. Percent of existing crabgrass killed by 3% mixture of KOCN in activated sludge as fall applications.

Station	Lbs. of Mixture per 1,000 sq. ft.	No. of Applications and Days Interval	Percent Crabgrass Reduction
Purdue	15	2-7	100
Kansas	10	3-7	70
Georgia	10	2-7	20
Georgia	10	2-2	43
Georgia	15	2-7	30
Georgia	15	2-2	83
Cornell	10	3-10	82
Cornell	15	3-10	78
Penn. State	10	3-10	43
Penn. State	15 July	3-14	92
Penn. State	10 July	3-7	66
Penn. State	15 August	3-10	80

Day) crabgrass competition may be greatly reduced without killing the entire plant, complete kill in fall treatment is not nearly so important as in early summer treatments on seedlings.

SUMMARY

A. Selective killing of crabgrass, as shown in 1951 tests, has been most efficient when chemicals were applied in liquid form as sprays.

B. Rates heavier than recommended caused excessive injury to desired turf grasses.

C. Retreatment planned for 5 to 7 day intervals to prevent the weakened crabgrass from recovering gave best and quickest control.

D. Since each chemical usually acts within 3 days after spraying, early summer applications require treatments on schedule until all crabgrass plants are dead.

E. KOCN appeared more adapted to use on bluegrass than on fescue or bentgrass for less leaf burn of bluegrass was experienced.

F. Sodium arsenite was by far the cheapest compound tested; however, the greater turf burn and necessary safety precautions tend to limit its use to special areas (as fairways).

G. The 3% KOCN dust proved to be excellent for home owner's use for fall renovation and fertilization.

H. The use of pre-emergence applications toward a preventive program needs further investigation.

Calloway Handicap System Makes "Golf Day" Even

An event such as National Golf Day which has thousands of players who haven't got club handicaps would be a bewildering affair were it not for the system that Lionel Calloway worked out in devising a handicap system that adjusts these scores to a par basis.

The Calloway handicap system, widely used in events where players haven't established handicaps, is the result of investigation and experiments Lionel began about 10 years ago when he was in pro golf at Bradford, Pa.

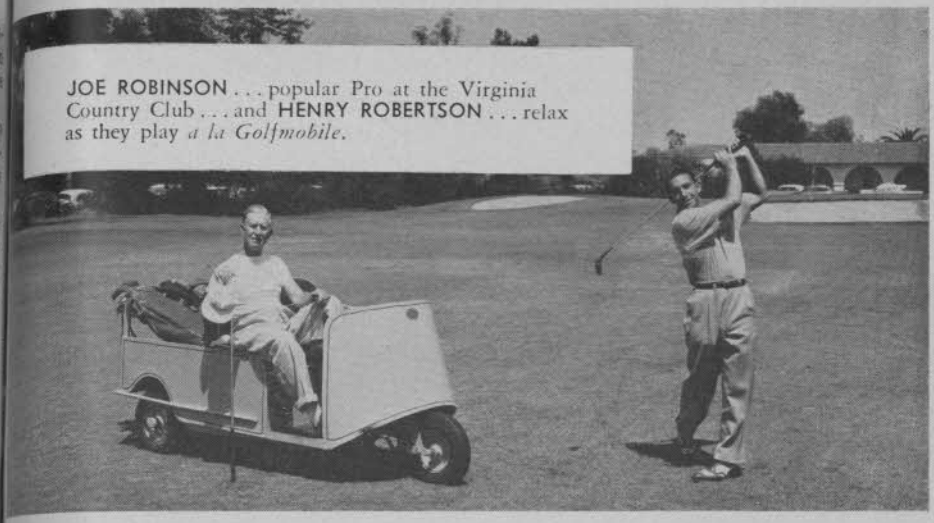
"I decided to work out a fair handicap system because I discovered," says Calloway, "that the average golfer was more concerned with the other fellow's handicap even though he was well satisfied with his own. More complaints were made because the other fellow had too much and not because the player did not have enough."

So Callaway, whose father was a distinguished professional before him and whose brother, Harold, is a famous instructor at Pinehurst, devised his system. With it every net score may logically range from 72 to 76.

Here's how Calloway evolved his formula:

	Gross Score	Deduct
	Par or less	½ Worst hole
	One over par to 75	Scratch
	76 to 80	Worst hole
A	81 to 85	Worst hole plus ½ next worst hole
	86 to 90	Two worst holes
	91 to 95	Two worst holes plus ½ next worst hole
	96 to 100	Three worst holes
	101 to 105	Three worst holes plus ½ next worst hole
	106 to 110	Four worst holes
B	111 to 115	Four worst holes plus ½ next worst hole
	116 to 120	Five worst holes
	121 to 125	Five worst holes plus ½ next worst hole
	126 to 130	Six worst holes
	131 to 135	Six worst holes plus ½ next worst hole
C	136 to 140	Seven worst holes
	141 to 145	Seven worst holes plus ½ next worst hole
	146 to 150	Eight worst holes

NOTE: Worst hole equals highest hole score.



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