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Brinkworth explained, "is not in throwing them up, but in looking into the future and trying to foresee if they are going to be adequate in face of the changes that will come in golf in the next 10 or 20 years. You have to ask yourself, for example, if something bigger and heavier is going to replace the golf car or the machinery we use today, and if your bridges are going to be large and strong enough to take them."

Criteria for Construction

Brinkworth listed several criteria that have to be considered when bridges are constructed. They are: How are they for safety? Can they support tournament crowds? Are they high enough to span rising water? Are accesses to them large enough to keep compaction reduced in the approach areas?

The ex-Canadian supt. supplemented his speech with slides that showed how bridge foundations are built, flooring is installed and how large pre-fab steel spans are set on piers. Some of the more interesting views showed how three 100-foot long, corrugated steel tubes that are 10 feet in diameter were installed as underpasses at Sunset Oaks about two years

ago. Brinkworth supervised construction of this course and then remained as supt.

Bill Rolls 'em Up

Bill Lyons, the Akron, O., squire, is a speaker who has a bit of the Mike O'Grady in him. He doesn't invoke any blessing in the O'Grady manner, and he doesn't threaten to dissolve at the thought of almost having missed bearing Irish arms. Nevertheless, he does a good job of rolling up an audience because he has an uninhibited way of serving some vegetables with the meat course. Bill gave his listeners a shot or two of Edgar Guest, Elbert Hubbard and who knows, maybe Socrates, before easing into the proposition that maybe supts. are getting in the golfers' way.

Here he became a little red-eyed, pointing out that since the players are paying the tab they have a right to expect to use the course from sun-up to sundown. "The trouble is," Bill exploded, "we think we should be cutting grass just when play is heaviest. Golfers are paying guests and we'd better not forget it. We're throwing too many distractions in their way and it's time we stop. How would you like to come out to play golf and have a green-

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- * Indian Ridge Country Club Andover, Mass.
- * Colonial Country Club Lynnfield, Mass.
- * Glenellan Golf Course Millis, Mass.
- * Town of Winchester Winchester, Mass (Dept. of Parks)
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mower whirring in your ear, or wonder if some guy was going to amputate your left leg with a seven gang mower?

"The whole thing is ridiculous," Lyons

growled.

He offered a solution, too. It's simple enough — night maintenance. If you don't think there's a case for it, Lyons offers these thoughts: There is less wear and tear on men and machines when they work nights; Close mowing at night is safer; There is less wind drift at night and thus spraying is made easier; Even stolons planted at night grow better than those planted in the daytime. Finally, if you work nights and sleep days, you won't suffer the agony of seeing golfers tear up your course.

Sixth Session

Six speakers were presented at the final education meeting by Tom Mascaro, West Point Products Corp. president, the chairman. They included: John E. Gallagher Amchem Products; Prof. John C. Schread, U. of Connecticut entomologist; Alex Radko, eastern rep for the USGA green section; Stan Fredericksen, Mal-

linckrodt Chemical Works; Harry W. Meusel, Yale U. GC supt.; and Dr. Michael P. Britton, U. of Illinois.

Aquatic Weed Control

Because water consumption increases eightfold in a generation, there must be a relentless battle against aquatic weeds, said John Gallagher, a research chemist. It has only been in the last five years that this has been fully realized and a concentrated attack made on the weeds that infest ponds, lakes, streams, irrigation ditches and other bodies of water.

Gallagher declared that herbicides can be used safely and effectively and that tests have pretty well proved that their residue is not toxic to fish. Wide scale weed control through herbicides, he pointed out, is considerably cheaper than carrying on repeated dredging operations to keep water sources cleaned out.

Much of Gallagher's material was presented through the use of slides. These showed the most common aquatic weeds; water hyacinth and water chestnut, both found throughout the U.S.; the water grasses such as coontail and cat tail, both widely distributed; and submersible weeds such as pondweed, of which there are 20

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or 30 species, and eel grass that comes in after other weeds are disposed of.

Battle Must Go On

Prof. John Schread conceded that Rachel Carson may have good reason for taking a stand against indiscriminate use of insecticides, herbicides and fungicides, but he added if these different eradicators are used with discretion there is no cause for alarm. So far as insects are concerned, Miss Carson apparently doesn't take into account that more than 1,000,000 different kinds are recognized and catalogued, and perhaps another 8,000,000 unidentified species are in existence. If a large scale war weren't constantly waged against the insect population, man would have to find a way to get to and live on another planet in a hurry.

In the endless battle that has been

In the endless battle that has been fought against insects and, of course, continues, most pests have been controlled, but it is doubtful if even one species has been made extinct. The history of insect migration, Schread said, is a fascinating one, but at the same time one that has to be contemplated with a good deal of apprehension. A species may migrate from one coast to the other within a gen-

eration, and in the case of such as the Colorado potato beetle, may transfer its feeding ground from animals to plant life.

Many insects are imported, Schread stated, but most that infest turf are native born. The chinch bug, the popular new nemesis to lawns, spreads in hot and dry weather, hibernates through the winter if thatch is heavy, and is only detroyed when steady summer rains destroy both young and adults during the insect's heavy reproduction season. The sod webworm, on the other hand, survives when there are moderate to heavy rains. The earthworm, the scourge of putting greens in the '50s, but since controlled by chlorinated compounds, is washed to the surface during a heavy rain and literally can be raked away.

Winter Problems Intensified

Alex Radko, who is starting his 18th year with the USGA green section, offered a question that may continue to disturb supts. for some time: Why have our winter turf problems been intensified in the last three years? Radko didn't attempt to supply a specific answer, but (Please turn to page 140)

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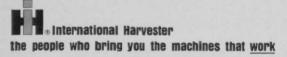
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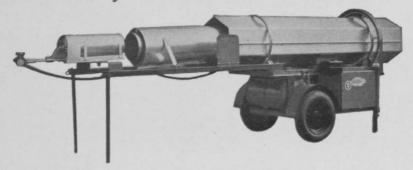
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did suggest several alternatives. The trouble may be due to too much traffic through the season; too much play in the late season; turf is maintained in too soft or succulent conditions; it is mowed too close during the playing season; or it may be due to the weather itself that brings snowmold, buries the greens under a ice sheet and induces winterkill, or generates enough strong winds to cause intense desiccation.

"The supt. may be a victim of the system," Radko said. "He has been giving the players close-shaved greens for so long that to change now might excite a revolution. But it's questionable if turf, even as finely maintained as it is, is intended to be as closely clipped as it is during the summertime. It is fairly well established that high-cut turf is better fortified to withstand the rigors of winter. But whether the players would ever stand for the mowers to be set 1/16 or 1/8-inch higher is another matter."

What Causes Deadspot?

Stan Fredericksen, who followed Radko on the program, also posed a question for the audience. What causes the spring deadspot that is so prevalent in Bermuda in the transition belt? Fredericksen explained that large, circular gray spots are common in U3 fairways throughout the entire Washington-St. Louis zone and to date nobody has come up with a fungicide that permanently eliminates them.

They recur annually in exactly the same spots they had been in the previous year. Later in the season weeds and crabgrass infest these infected areas.

"Northern agronomists think we are seeing things that don't exist," said Fredericksen, "but one of these days they are going to find that deadspot isn't an illusion because it is spreading northward. It showed up in Oklahoma 10 years ago. Deadspot was originally observed in southern Missouri back in 1936 by Bob Dunning."

In the last three years Fredericksen's Mallinekrodt firm has intensified its study of the mysterious condition which is due to desiccation or disease. It has compounded 100 products that have been used in the battle against deadspot and at present the company feels that there are two possible fungicides that may eradicate it. Two years ago it was felt there were 19 possibilities. A breakthrough