
Those superintendents attending the Golf Course Superintendents Assn. of America International Turfgrass Conference and Show in Anaheim, Calif., will have an unprecedented opportunity to see innovations in virtually every facet of materials and equipment for turfgrass maintenance. Some of the changes have been dictated by OSHA regulations; others will reflect the influence of the ecological and the environmental movement. Economy of manpower and energy will loom big in machinery operations. Efficiency in the use of higher-cost seeds, fertilizers and chemicals will be evident in the new designs of spreaders, sprayers and seedbed preparation tools.

This preview of the attractions at the show admittedly must be incomplete, but it may be considered a general guide. Casual, haphazard wandering is not the way to glean the most out of the splendid and costly showings of merchandise. A cursory glance at a display while walking past a booth is no way to learn about the manufacturer's efforts to help the superintendent do a better job. Stop and ask the attendant about his equipment. The exhibitors have spent large sums of money to acquaint you with the very latest—make them feel that their efforts have been justified.

Prominent among the displays will be those of the large equipment manufacturers. Each one will welcome your attention, so that you can evaluate the new designs and concepts. Here are some to look for.

*Improved transportation* for men and machines. Gasoline-powered three- and four-wheel "speedsters" are designed to get your crew to the far corners of the course quickly and cheaply. Manpower is too expensive to waste on walking.

*Safety* in machine design is something to ask about. Are gears, chains and sprockets protected to the extent that OSHA standards are met? Are noise levels low enough? Is the exhaust channeled away from the operator?

*Recycling* will play a big part in future golf operations. Grass clippings and tree trimmings will be blended in compost piles to be reduced to humus and returned to the ecosystem. Look for the silent chipper, which reduces noise pollution and can chew tree limbs, old lumber and asphalt blocks into chips for composting. For the economy-minded, there is a three-point hitch chipper that uses tractor power and is portable.

*A "Soil Laundry"* sounds like a far-fetched idea, but ask about it. Large-scale soil cultivation began about 1947. Since then, we've fussed with the debris that comes to the surface. Now, we can expect to see a machine that picks up the soil cores, pulverizes them, returns the soil as topdressing and collects the thatch and other debris for removal to the compost pile. The soil will be in better condition to receive lime, fertilizer and water.

The machine that is able to introduce new, improved turfgrass seeds into established turf without interrupting play and with a high degree of success, is one everyone, who doesn't own one, should see. With grass seed doubling and tripling in price, the emphasis will be on "how little can I use and still get results." The word is efficiency.

*Fertilizers* need to be used efficiently, too. We might be looking for a machine that will place fertilizer in the root zone under the surface, where erosion cannot move it to the nearest stream. Deep soil cultivation is the best approach to date.

Regulations in Government have encouraged fertilizer manufacturers to ship their products abroad where manufacturers get $30 to $40 more a ton. Hopefully, this will end when controls end, but be prepared to increase the fertilizer item in your budget.

*Phosphates* are difficult to come by, which may not be too serious in the turfgrass market because of excessive uses of phosphorus. Talk to the fertilizer people and get their view on the current situation.

*Ask also about* the availability of white powdered, soluble *sulfate of potash* that is sprayable without clogging nozzles. Rock-and gravel-polluted granular potash simply is not acceptable in this day and age when the word is quality.

*Nitrogen* will be discussed at many displays. It is essential to the production of good turf. When a mixed product is sold, ask for a complete breakdown of ingredients.

*Irrigation* equipment now is so sophisticated that it can be baffling to the untrained operator. In some cases, the safety element, such as lightning arrestors, has been neglected. A single bolt can knock out an entire system. Another thing

*continued*

to discuss with irrigation personnel is how the system will work with sewage effluent water. Also ask about how you can reduce water and still maintain good turf. This is a good question for the grass seed people, too.

*Lime* has been cast in the roles of hero and villain at various times in our relatively short turfgrass history. In this day, we need to know more about the earth's own chemical resources to protect our turf. We avoid spoiling our environment with an overkill of powerful chemicals.

*Grasses* for turf are being developed and released at an astonishing rate. Merion, the first of the improved bluegrasses (1950) now is being challenged by cultivars from Alaska, Sweden, Penn State, N.J., Washington, Indiana and elsewhere. Penncross, the first improved seeded creeping bentgrass, developed at Penn State, now is being challenged by others that claim superiority. New red fescues claim better performance than Pennlawn, another Penn State release. Can the superintendent accept the advertising claims for each grass and be sure that, when it's planted on his course, it will outperform all others? Of course not. Now, more than ever, the nursery will be the focal point for evaluating each new grass under local conditions. Ask at the seedsmen's booths for samples for testing. Better yet, order enough for one-quarter or one-half acre and run a realistic trial on your course under play.

*Metrics* may be at the show in one form or another. Don't be surprised if some directions call for "grams per liter" or "grams per square meter." Scientific literature states measurements of height of cut in centimeters. Don't be surprised, be prepared.

*Hydraulics* are the main thrust of mechanized turfgrass maintenance. Hydraulic drives mean smoother, quieter performance, less downtime (no chains to break or gears to strip) and greater efficiency. But, check for potential leaks and blowouts. Hydraulic fluid can kill grass.

*Pre-packaged chemicals* for greater accuracy in application will be something to look for. Don't hesitate to ask about biodegradable containers which, when buried, decompose into harmless residues. An empty container can no longer be thrown on the trash heap, nor can it be burned. Ask the chemical people what they know that can help you solve your problems.

*Contract maintenance,* contract weed control, contract liming and fertilization. These things are all being done in a limited way. Will they expand? Will these contracts lessen the responsibility of the superintendent? Can maintenance contracts keep courses in better condition at lower costs? The answers may not be forthcoming at the show, but there will be talk about contracts, so be ready to ask questions and exchange ideas.

*New chemicals* for weed control? For diseases? For insects? Not too likely, because we have not used our current arsenal effectively as yet. The variability of results might be traced to variations in other factors, which are operating in force. We've learned that timely applications of lime have an effect on the incidence of some turfgrass diseases. We know that lime cannot be considered as a fungicide, but it acts like one sometimes. Also, we might see granulated, dust-free lime on display. It will cost more than regular Aglime, but it might be worth it. It won't hurt to ask.

Chemicals designed to reduce the growth rate of turfgrasses will be a fit subject for discussion. Let's not forget our "foes"—*Poa annua,* nut grass, goosegrass and other hard-to-kills. Keep in mind the high cost of synthesizing a new chemical, formulating it, testing it, and finally, getting an approved label for it.

*Solid-state ignition* seems to be on the current state of affairs and could mean improved efficiency and less downtime. Ask your favorite manufacturer what it means to him and what it could mean to you. As I understand it, solid state means an end to breaker points, distributor heads, condensers and associated parts.

Ask manufacturers about *training schools* where a modest fee will allow you to learn how best to maintain and operate machines and power plants.

*Stainless steel* will be the order of the day in sprayers. Corrosion will be greatly reduced and cleanout will be facilitated. Ask about screens and the ease of removal when spraying with materials that have a tendency to clog.

*Hydraulic* application of materials is commonplace, but few courses can boast a hydroseeder. The hydroseeder can distribute materials hydraulically with accuracy, speed and ease, in a way that will stop the ordinary sprayer cold. I shall be looking for a sprayer that can perform all functions, from spreading wood pulp mulch, seed, lime and fertilizer to the application of chemicals for disease and weed control.

*Sand trap rakes* are growing up. Look for attachments that will expand their usefulness, making them more of a utility tool. Some will boast "hydraulic down pressure" when used as a spiker. Convertibility and maneuverability are features to look for and ask about.

*A new concept* for on-the-spot repairs is a *mobile service van* for emergencies. At this point there isn't much to tell, but ask around. It might be there.

We cannot pinpoint each and every "new" device, seed or material that will be seen at the show. We can hope that this discussion will be beneficial to the superintendent as well as the displayer by making the viewer more aware of what to look for.

In brief, ask about 1) safety features; 2) simplicity of design, and 3) efficiency of operation.

Now, more than ever, each superintendent is faced with the necessity of making adjustments in values. Every new device is going to cost more money. How it will work on your course with your budget must be your primary consideration.

See you at the show.

by FRED V. GRAU

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