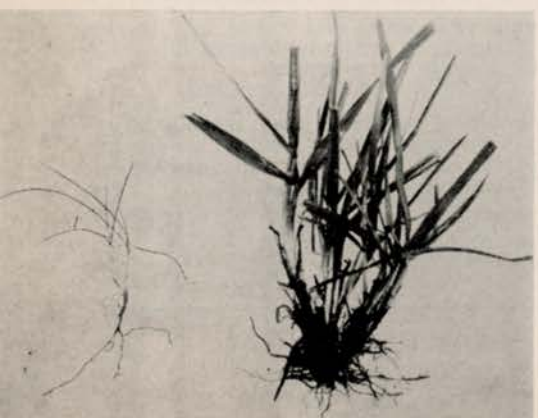
accomplish this is through a chart. A reference chart appears on pages 18-19. Lest the weed problems seem to overshadow the positive qualities, keep in mind that any good turfgrass licks most of its own weeds. But you must give it the chance to "be there fustest with the mostest." For example, crabgrass has little chance, if through autumn and spring a tight bluegrass sod is built through correct fertilization, high mowing, and the bolstering of thin sod with good seed. Few weeds can crowd out zoysia, if this elite turfgrass has been helped through its early years by weed control, watering, and fertilization. First attention should be directed to fulfilling the lawngrass' needs. Herbicide application is a mopping-up action, to take care of what the grass has not been able to cope with. If weed problems are great and persistent, take a second look at your turf maintenance program; herbicides can't make up for faulty procedures!

Above is the vaunted Kentucky bluegrass plant as it would appear if let go to seed. Pencil points to an underground spreading stem (rhizome), responsible for knitting the tight sod so characteristic of this grass. Below are two fescues. The tall fescue to the right is unsuited as a lawn grass,, while the fine-textured member of the red fescue group on the left is the peer of Kentucky bluegrass.



Speakers at this year's New England Herbicide Workshop included (left to right), front row: Roland E. Roberts, Univ. of Maine; Jay S. Koths, Univ. of Conn.; and Robert J. Schramm, Jr., Boyce Thompson Institute. In second row are Arthur Bing, Cornell Ornamental Research Lab; John Havis, Univ. of Mass.; and John Ahrens, Conn. Agr. Exp. Sta.

Present and Future Uses of Herbicides Studied at Annual New England Workshop

Current and coming uses of herbicides in ornamentals and other crops received penetrating analysis during the annual New England Herbicide Workshop at the Waltham Field Station in Waltham, Mass., Feb. 4.

More than 100 herbicide-oriented researchers, developers, applicators, and users were present this year.

Uses of herbicides in herbaceous perennial and annual ornamentals were outlined by Dr. Arthur Bing from the Cornell Ornamentals Laboratory in Farmingdale, L.I., N.Y.

"Where practical," Dr. Bing said, "we recommend preplanting treatment with a soil sterilant such as steam, methyl bromide, Vapam, or Vorlex, especially for seeds or closely set small plants."

Preplant treatments with EPTC, Trifluralin, and some experimental materials, have been successful with such ornamentals as dahlia, marigold, and petunia. EPTC incorporated at 10-15 lbs. active ingredient per acre shows great promise for the control of quackgrass and Artemesia, Dr. Bing reported.

Use of herbicides in commercial nursery plantings were detailed by Dr. John Havis from the University of Massachusetts in Amherst. He has found that the one material most useful in commercial nursery stock is simazine.

Dr. Havis said that 1½-2 lbs. active ingredient per acre of simazine will give adequate control for many weeks in nurseries.

Fall applications of simazine have proven to be more beneficial than spring in that a lower rate of application has given adequate control of weeds during the spring season, the Massachusetts researcher elaborated.

One of the coming uses of herbicides listed by Dr. John Ahrens from the Windsor Field Station of the Connecticut Agricultural Experiment Station dealt with an application under a mulch. Simazine applied under a mulch of salt hay or plastic film has increased the growth of young apple trees as much as 75%, Dr. Ahrens indicated. Of interest to *Weeds and Turf* readers is the fact that this technique might have wide application in the establishment of ground covers on slopes such as highway embankments.

Dr. Ahrens commented on the situation where one resistant weed species tends to become a problem with the use of a single herbicide. Combinations of 1 to 2 lbs. simazine plus 3 lbs. diphenamid or 6-8 lbs. Dacthal or 3-4 lbs. EPTC, have shown some promise and may replace straight simazine applications in the future.

Research has shown that activated charcoal, when applied to the soil, will inactivate simazine, thereby making it safe to plant

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Praise Water-Soluble Diquat For General Home Weed Control

"Water-soluble Diquat is an effective contact herbicide for control of young annual weeds, and temporarily controls herbaceous perennials," according to J. B. McHenry in the January 1964 issue of the University of California's Ag Extension Service *Pest Control Review.*

Diquat is currently registered as a seed crop desiccant, a general weedkiller, and an aquatic herbicide. Action of Diquat is such that it is absorbed only through leaves. Since it is deactivated by contact with soil it cannot be absorbed by roots of desirable plants. By directing spray onto leaves of weeds under trees, around gardens, in patios, and on walks, selective control is attained.

Availability of the 2 lbs. of active cation per gallon is to professional applicators only. California Chemical Co. does not presently formulate a preparation for homeowner use.

California Extension Service recommends the addition of 6 to 8 ounces of surfactant to each 100 gallons of spray mix to enhance the phytotoxic action of Diquat herbicide. The fact that Diquat is water soluble, odorless, and will not stain painted or masonry structures makes it desirable for use around homes, the report maintains.

Bark Beetle Fungi Fell Pines

Pine trees usually succumb after an attack by bark beetles only indirectly because of the beetles, according to Dr. M. H. Farrier, entomologist at the North Carolina State College, Raleigh.

Real culprit is the blue-stain fungus which both the southern pine beetle and the Ips engraver beetle carry. Even though the beetles may be killed after infesting a pine, the fungi they have carried plug the water-carrying vessels of the tree, and the tree dies from drought.

Only sure control for the blue-stain fungus, Dr. Farrier recommends, is adequate prevention before beetles strike.

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more susceptible species, Dr. Ahrens further reported. Assuming a simazine residue of 1 lb. per acre, 100 lbs. of charcoal could be used to prevent the expected simazine injury when susceptible species are to be planted.

Final speaker on the program was Prof. Jay S. Koths who discussed herbicide usage in greenhouses. Principle use in this area is on the floor to control weeds and the pests that survive or build up in numbers on the weeds, the expert commented.

Only nonvolatile, long-lasting herbicides should be used for this purpose, he continued. These include monuron, diuron, neburon, simazine, and atrazine.

In accordance with the policy of rotating areas of interest in this New England Herbicide Workshop, there is a possibility that turf will be one of the subjects to be discussed next year, Professor Koths told *Weeds and Turf.*