

duce usable seed while others do not? (Mo.)

A—The grasses have become intermixed over the years through cross pollination and some do not hold true to type where seed is used. Three vegetatively-produced parents were used in the production of the Penncross strain. Many off-types were produced and discarded before the best three were put together.

Q—Of what benefit is it to have roots in a putting green below the depth of $2\frac{1}{2}$ "? (Mass.)

A—Some of the good putting greens that we have seen have roots occupying the full depth of the top 12 ins. of soil. Some go even deeper. Grasses that are growing with deep extensive root systems like this are better able to withstand shock and they can go longer periods without water because the roots are ranging through a greater depth and volume of soil for moisture and nutrients.

The extra root cushion will mean a great deal in playing conditions giving a resilience to the turf that cannot be obtained with a shallow-rooted grass.

The grass growing on a deep extensive root system like this is much more likely to be healthy because it is more able to obtain a steady constant supply of moisture and nutrients and proper balance thereby enabling the grass to keep ahead of diseases. A deep extensive root system constantly dying and decaying is continually improving soil structure.

Q—Is methyl bromide dangerous to use? (Texas)

A—There is little horizontal movement of this material so only the treated area is affected.

However, caution should be observed for shrub roots growing near treated area. Usually treatment should be no closer to the base of a tree than the drip line, although it has been reported that citrus trees have been treated very near the trunk with no adverse effects.

Contact with the material is hazardous to personnel. Sensible precautions should be observed and do be accurate in following the manufacturer's directions for use.

Q—Is there yet a chemical treatment to control poa annua? (Ill.)

A—One of the things you can do is to apply lead arsenate at the rate of 10 lbs. to 1000 sq. ft. To obtain uniform distribution mix the material with topdressing and put it on early in the spring when the poa annua is just beginning to grow. This will retard the poa annua consider-

ably and should help the situation until we have something better.

However, where there is a high level of phosphorous in the soil the results may be disappointing.

Q—I believe I can save our club money by building a fairway spray rig. What width and capacity do you recommend?

A—Frankly, we don't recommend building your own equipment. There is a considerable investment in the turf on a golf course and it is well worth while to invest the money in good standard equipment to take care of that turf.

Although "tailor-made" equipment may be slightly more expensive than home made, it has the advantage that replacement parts will always be available from the local supplier.

In case of a breakdown repairs can be made almost immediately to avoid possible loss of grass. Very often standard parts will not fit pieced-together "bastard" equipment, and then there may be a delay of days or even weeks before parts can be obtained. There can be a serious loss of turf during that waiting period.

We have seen too many cases where supposed savings on equipment turned out to be very poor economy. It is better to buy a standard make so parts and service will be available promptly.

Q—Is it absolutely necessary to water after fertilizing? (W. Va.)

A—The reason for watering after fertilizing is to wash fertilizer off the grass blades so it will not burn.

Brushing the fertilizer off the grass blades with a dragmat will accomplish the same thing. If an organic fertilizer is used there is less likelihood of burning the grass.

Q—Our fairways have had no fertilizer since the course was built over 25 years ago. We want to start on a program of fairway improvement but we can't agree on procedure. What do you suggest? (Calif.)

A—The first step is to make as complete an inventory as possible, including photographs. This will be for the record and for the guidance and information of you and your officials and those who will come after you.

Get a complete soil test—ask your county agent, your experiment station or other service bureau for details.

Make a record of the types of grasses and approximate per cent coverage of each—weeds, too. Now, with soil test reports and vegetation population figures in