

and seed when construction is finished or should we wait and make a spring seeding?" Another is: "What will happen to our seedbed fertilizer if we fertilize and seed late in the fall?" (Maryland)

A. The questions are basic and important. The second question logically comes first.

Seedbed fertilizer, in the absence of active, live, absorbing plant roots, can suffer varying degrees of loss depending upon the character of the fertilizer. Nitrogen and potash will suffer the greatest loss, phosphorus little if any. Soluble sources of nitrogen (urea, ammonium nitrate, sulfate of ammonia), which are used in commercial grades 10-10-10, 10-6-4 and similar, may lose up to 70 per cent of their nitrogen from the leaching action of winter rains and snow.

Potash is soluble and will be leached but not to the same high degree as soluble N because it will be held to a greater extent by soil colloids. Insoluble sources of nitrogen (sludges, tankage, oil meals and ureaforms) will suffer little or no loss of nitrogen over winter. Therefore, if seedbed fertilization includes insoluble sources of nitrogen, it is practicable to consider late fall seeding.

Late fall seedings that do not emerge as seedlings until spring are known as "dormant seedings." Dormant seedings are recommended if adequate erosion protection can be established. This usually means straw or hay mulch or the new wood cellulose pulp. A good example is Skimont at State College, Pennsylvania where the entire planting was made just before freezeup.

Since the shale soil was porous and early spring greenup was desired, the source of nitrogen was ureaform. Straw mulch was secured with asphalt tack, Slopes, quite naturally, are much steeper than one would encounter on a course. When the snow pack melted and spring rains came it appeared that every seed germinated with only slight erosion. Similar good results have been achieved on new golf courses. One such is the Lower Cascades in Hot Springs, Virginia.

He would favor late fall (dormant) seeding using non-leaching types of seedbed fertilizer. Erosion-resisting mulch is a *must*. A big advantage is that operations during a soggy spring are avoided. Seed in the soil will start to grow as soon as conditions are favorable. Course opening could be advanced by several months. Weeds in the new turf are likely to be less troublesome with a dormant seeding.

Clover in Seaside

Q. We have Seaside greens. Clover is becoming a problem. What do you suggest? (West Virginia)

A. Your first problem is the Seaside itself. This grass is composed of many, many different (Continued on page 75)

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strains or types, some of which are weak and highly susceptible to diseases. Some turn purple when cold weather comes; some stay green most of the winter. Some strains get so fluffy and matted that they turn brown when a vertical mower is passed over the green. Clover easily invades weak grasses but rarely is a problem in a strong grass that is well fed and well managed. Once clover becomes established, it absorbs more than its share of nutrients.

One step to take is to prepare the green and overseed (or hydroseed) with Penneross – then manage for Penneross.

Another step is to check your soil and your feeding program to learn if you are fertilizing to encourage clover. High phosphorus and insufficient nitrogen can encourage clover at the expense of the grass.

If clover is encroaching in isolated patches you can treat these with a sharp edging tool and some sulfate of ammonia. First chop the clover in different directions to make "hash" out of it. Then sprinkle sulfate of ammonia crystals on the clover patch and let it "cook" until the clover is visibly affected. Now water the sulfate in to stop further burning. Topdress the patch with sandy topdressing in which onehalf lb. of Permeross bent seed has been mixed into one bushel of soil.

Be sure that the greens receive sufficient nitrogen to keep them vigorous. Phosphorus levels should be low to medium. It would help if you would forward a copy of your most recent soil tests. My address is PO Box 177, College Park, Md,

Starting from Scratch

Q. I am teaching a beginner course on lawns in an evening school. What are the most important items to stress in 1) building a lawn, 2) maintaining a lawn? (Ohio)

- A. In building a new lawn these are the important steps, in order:
 - 1. Drainage
 - 2. Deep tillage
 - Generous supplies of lime and plant food incorporated deeply
 - Selection of the best adapted grass for the location and purpose
 - Protect new planting from drying and erosion by mulching.
 - Start to mow at correct height as soon as there is anything to mow.

Maintenance of the lawn is concerned with:

- Regular mowing at correct height for the grass that is established, using a sharp mower
- 2. Removal of clippings
- 3. Water deeply as needed at long intervals.

 Regular fertilization to maintain quality This is a rough outline that can be expanded considerably.

