

sely covered areas of established turf. A straw or leaf mulch, applied at the rate of approximately one ton of material per acre, will provide excellent insurance for the establishment of a new seeding. Mulching is a must on sloping areas. Only under the most fortunate weather conditions can turf from new seedings be established on slopes before heavy rains cause the formation of rivulets or gullies.

Grass seed is expensive, but good

establishment methods are relatively cheap. When dangers to germinating seeds and young seedlings are anticipated, ways can be found to escape them. Employment of measures to escape the dangers is much cheaper than failure. When one knows *why* his seeds germinate or fail and *why* they do or do not become established to provide a good stand of grass, he will know *what* to do and *how* to do it.

PREPARING YOUR GREENS FOR WINTER PLAY

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Rye grass planted on bermuda greens offers an excellent putting surface during the dormant season of bermuda. By careful attention to the following factors, little difficulty should be had in developing good winter grass.

Soil tests for reaction should be near the neutral point. About two weeks before planting time, 15 to 20 pounds of 20 per cent superphosphate per 1,000 square feet should be applied to the greens to encourage root growth of the young seedlings. It is also advisable to put on 5 to 10 pounds of muriate of potash, provided grass clippings have been removed regularly during the bermuda season. At this time nitrogen should be low in the greens, and the bermuda, by its color, growth and so forth, should show definite need of nitrogen.

Rye grass is strictly a cool weather grass. It should not be planted until weather conditions are favorable. Around October 10, under normal conditions, is about the right time to begin seeding in this locality. Fungicides to control diseases in the rye should be put on just prior to seeding and should be used thereafter as needed. Rye grass is especially susceptible to dollar spot; Cadminate can be used safely and effectively both as a preventative and as a cure for dollar spot.

The bermuda should be cut the height of $\frac{1}{4}$ inch at the seeding time. Severe raking destroys the base for the rye and breaks down the manufacturing plant of

the bermuda, which is certain to cause trouble later in the transition period.

For best results use 50 pounds of rye seed per 1,000 square feet in two plantings about two weeks apart. The seed should be thoroughly worked into the bermuda turf before top dressing with a mixture of course sand and soil. The top dressing should be low in nitrogen and humus; too much nitrogen and humus encourage "damping-off."

Careful use of water is very essential. The soil must be kept moist but not saturated with water. It is best to water lightly two or three times a day if necessary until the young seedlings are well rooted.

Mowing is also very important during the early growth of the rye. The mowers should be kept very sharp in order to make a clean cut. Dull mowers loosen or pull out many of the young plants. Rye, cut regularly at a height of $\frac{1}{4}$ to $\frac{5}{16}$ of an inch, will keep the bermuda under control until the bermuda ceases to grow.

Nitrogen in an organic form, such as Milorganite, should be applied at the rate of 25 pounds per thousand square feet when the rye has been up for about three weeks. This is an ideal source of nitrogen for it will not burn or discolor the young rye. The rate of growth and the color of the turf determine the need for additional nitrogen.

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