Is Topsoil Necessary?

By DR. RALPH ENGEL
Cook College, Rutgers University

“Poor soil” often is the excuse for turf failure. And while we as turf growers realize this is an overworked idea, we know that a lack of topsoil is often a handicap on sites where there is need to establish turfgrass. The topsoil may have failed to develop naturally; possibly, it was removed or reconstruction of the site and regrading may have dissipated the topsoil.

What are the consequences of no topsoil or very poor topsoil? The amateur may say that turf cannot be grown on subsoils, but we have learned that it is possible to develop good turf cover on most all subsoils. From my experience, I recall two New Jersey subsoils that I would avoid. One of these is the very acid, wet, black clay soil that we find between New Brunswick and the upper coastal region of New Jersey. This soil will grow turf if it is properly drained and enough lime can be incorporated.

The fact that most subsoils will grow turf does not make topsoil unnecessary or undesirable. Its use reduces the chance of failure in turfgrass establishment and makes maintenance of established turf easier and less costly. When turf is established on subsoil, be on guard for such items as improper pH, need for extra fertilizer (especially refertilization), a poor physical condition that interferes with seedling establishment and additional need for watering during the first year or two. The use of a mulch over the seeding is more desirable on poor soils than good soils.

What are some of the disadvantages of topsoil? First, topsoil is com-

(continued on page 52)
Columnar Sargent Cherry

Prunus sargentii Columnaris: This is an excellent columnar type with deep pink flowers, polished red bark, and a good red fall color. It reaches a height of 40 feet.

Rancho Sargent Cherry

Prunus sargentii Rancho: This selection is similar to Columnaris, with the same narrow habit and sharply ascending branches.

Kwanzan Oriental Cherry

Prunus serrulata Kwanzan: This selection has double pink flowers and a compact, upright, spreading habit of growth. It has glossy green foliage, abundant early white flowers, and a good reddish fall color. Its thorns are a limiting factor in its use as a street tree. Improved introductions:

a. Aristocrat — A selection similar to Bradford in hardness character, but more ovate in shape and with slightly larger leaves. In addition, the branches are at right angles to the stem.

b. Bradford — A thornless selection with all the good qualities of the species. It has a broad oval form at maturity, to 40 feet, usually fruitless, with ascending branches and a crimson fall color.

c. Chanticleer — A good, sharply pyramidal selection narrower in form than Bradford, with an excellent yellow fall color.

d. Fauriei — A dwarf selection growing to 15 feet, with a round form at maturity similar to Bradford but smaller.

e. Rancho — A cultivar with good red fall color and white flowers similar to other types.

TOPSOIL from page 57

monly a very costly item. Good topsoil is often unavailable; and it is difficult to specify and control quality. It is rare that good topsoil does not contain weed seed. This leads to the danger of introducing serious weeds that were not present on the site. Where there is a great difference in texture between the subsoil and topsoil, this may prevent good movement of water and roots into the sub-

What are some considerations that may influence the decision on the use of topsoil? Certainly, availability and cost of topsoil are very important factors. If consistently good turf is required, topsoil becomes more important. A landscape site that is below grade may require fill; and the use of topsoil, where this condition exists, adds another useful function. While it may not seem too professional, some use topsoil to cover stones and small rocks. If the topsoil layer is not too shallow, this may not be undesirable. If topsoil is used, can the objectional cleavage layer with the subsoil layer be avoided? This becomes a very important consideration on slopes and areas receiving high use or maintenance.

Also, the alternatives to topsoiling might be considered before proceeding. Organic matter of the correct type generally improves most poor soils whether they be sand, clay or infertile. Where sufficient time exists green manure crops can be grown or various forms of natural or organic residues can be incorporated. Local environmental wastes may be available and these can be put to use and serve the community. Some concerns with these materials could be pH problems, metal residues or short-term biological uncleanliness. Except for the metal residues, these problems can be overcome.

What is the proper decision on topsoiling for establishing turf? Where topsoil exists give it proper care and put it to good use. Store topsoil on well-drained sites in such a fashion that large, tightly sealed piles are avoided. Keep weeds under control. Manage a minimum of handling and tillage to preserve the physical condition of the topsoil and avoid loss of organic matter. Avoid spreading and tillage of topsoil when it is wet. In closing, rarely is it desirable to dissipate and waste topsoil.