



Costs of irrigation, pumps and associated pumping equipment must also be calculated into the overall production expenses.

## A Sod Producer's Two Goals

By RICHARD E. SCHMIDT

Associate Professor of Agronomy  
Virginia Polytechnic Institute  
Blacksburg, Va.

A SOD producer has two major objectives. The first is providing a quality sod and the second is to produce the sod efficiently, which means as rapidly as possible.

In meeting the first objective the sod producer is handicapped to a large extent. Information on adaptability is lacking on the many varieties and strains he may choose to grow. Many strains and selections are released without knowledge of particular environmental adaptability.

Many times a grass may be well adapted to the conditions existing at the sod farm, but will not tolerate the usage, management or environment of the area on which it is eventually installed. Information concerning the response of specific varieties to specific ecological conditions would be desirable and most helpful in selecting strains and formulating mixture and blends in order to produce a quality sod.

Attempts are being made in the northeast to obtain this type of information on the various Ky bluegrass cultivars. Experiment stations from Vermont to Virginia are cooperating in evaluating the commercially available as well as many of the promising experimental varieties and strains.

Efficiency of production involves the interrelationships of the turfgrass physiology, morphology and environmental conditions.

Sod strength or rolling ability indicates when a sod is ready for harvest. In essence this is directly related to the development of roots and rhizomes.

The roots of cool season grasses generally renew themselves from November to April, with the most rapid root development occurring in April. Little root growth can be expected during the summer months.

Cool season grass rhizome initiation is not dependent upon cold weather as often is thought since most rhizome formation occurs in the spring.

Rhizome development is associated with the long day and short phenomenon of spring, independent of exposure to low temperatures. The production of roots and rhizomes in the spring is the main reason sod is not considered harvestable until the grass overwinters regardless of season established.

In some areas, similar to those found in Michigan, sod can be produced more rapidly than in other areas, such as here in the mid-Atlantic area.

This is often puzzling because here we have longer growing weather in the fall and early springs than are experienced in Michigan. Their advantages are associated with the organic soils on which they grow sods.

These muck soils have a high water holding capacity, and a tre-

mendous nutrient holding capacity. Seldom are these soils lacking in moisture and often are saturated for long periods of time. This forces mass root development near the soil surface.

Now, it's not advocated that soils be continuously saturated to develop large quantities of roots near the surface, but my observation is that most sod fields in the east are under irrigation.

Information is needed on when and how to irrigate mineral soils to best produce root development for sod production. It appears that excess water at the wrong time reacts like excess nitrogen at the wrong time.

Less companion grass should be incorporated in Ky bluegrass mixtures seeded in spring than in the fall.

All year old sod containing a companion grass was weaker than pure Ky bluegrass sod. The companion grasses in order of reducing sod strength were as follows: perennial ryegrass > annual ryegrass > creeping red fescue > redtop. However, the rooting ability was enhanced, to a certain extent, inversely with sod strength.

Possibly this information may be used by sod growers in formulating seeding mixtures to obtain sod strength quickly as well as providing a rapid knitting sod.