

in crabgrass they may originate from several places along the seed stalk.

**Bentgrass and nimbleweed** — occasionally confused with crabgrass but don't turn brown with frost. Grow luxuriously in spring and fall but may turn off-color in summer. Patches usually solid and uniform in texture; leaves small compared to many other grasses. Some types with stolons; thatch usually abundant in bentgrasses.

Several annual grasses (goosegrass, foxtail, witchgrass, etc.) are similar to crabgrass in both appearance and control measures; therefore, even if mistaken for crabgrass, no harm is done, according to Deal.

If you are not sure of the type of grass with which you are working, call on your Extension Agent or other knowledgeable persons in your area to correctly identify it for you, Deal suggests. It could save you a lot of time, money and work.

## **MSU's Rieke Provides Lawn Establishment Tips**

Whether seeding or sodding a lawn, according to Dr. Paul Rieke, Michigan State University soil scientist, preparing the proper seedbed is critical.

If soil conditions are too sandy or high in clay, topsoil might be worked into the soil to improve its physical properties, says Rieke.

Fine textured soil requires surface drainage, which can be achieved by sloping the turf site, says Rieke. He cites the example of football fields, which are often 18 inches higher in the center than at the sidelines to help reduce problems of a soggy turf.

With soil structure in good shape, fertilizing comes next. Rieke recommends, as a good rule of thumb, application of

5-20-20 fertilizer at the rate of 10 to 20 lbs. per 1000 sq. ft. for seeded turf; 20 to 40 lbs. for sodded turf.

If the soil is acid (below a pH of 5.5), lime may be required.

Next, smooth the soil surface and complete the contour. Apply seed and rake it lightly so that the seed is not buried. Then roll or firm the soil to insure maximum germination by providing good contact between seed and soil.

Also vital to good seedbed establishment is mulching, adds Rieke. MSU studies show that straw, excelsior and processed wood chips work best. Mulches help keep soil moisture and temperature at more optimum levels and discourage competition from weeds. They also help keep soil moist during both cool and hot weather, he says.

"A good practice is to check the soil daily, at noon, and to water then to keep the soil moist," Rieke concludes.

## **Modifying Tractors Can Cause Problems**

Before deciding to modify a diesel tractor, effects on tractor life and maintenance costs need to be considered, cautions Thomas H. Williams, extension engineer at the University of Delaware.

Overfueling, perhaps the most popular method of squeezing more power from a diesel, is fast, easy, and cheap . . . but is extremely hard on engines.

Oil contamination caused by excess fuel washes off cylinder walls causing scuffed pistons, carbon buildup in the oil and fouled seals. Excess heat from burning more fuel leads to higher valve temperatures and shorter engine life.

Overfueling also causes injector and injection pump failures to rise sharply and may increase

combustion pressure to the point where head gasket leakage and bearing and crankshaft failure become a chronic problem, Williams points out.

Undue strain on the transmission and final drive caused by extra power may shorten gear, bearing and shaft life.

Overfueling by no more than 10% is enough to bring on these problems, according to Williams; at a 20% power increase, they become critical.

## **Grass Is Best Organic Soil Conditioner**

Elwyn E. Deal, University of Maryland turf specialist, reports on benefits vs. cost of using organic materials as soil conditioners.

Organic materials benefit turf by increasing both water- and nutrient-holding capacities, improving soil composition and adding nutrients.

However, adding organics to large areas is not feasible, says Deal. An acre of soil 6 $\frac{2}{3}$  ins. deep weighs about 2 million pounds; to increase its organic content 1% would require 10 tons (oven dry weight) of organic material. Costs can run high for purchasing, shipping and incorporating the material.

Established grasses, according to Deal, are the best soil conditioners. Their roots decompose rapidly and add large amounts of organic matter to the root zone in short periods of time.

The most critical period is the establishment stage; therefore, organics are most beneficial at the time of and during the first few months after the planting of the grass, says Deal. Once grasses are established, they furnish their own organic materials.

Deal also points out that certain organics used as a mulch (wheat, barley, straw) at the time of seeding are very helpful.