

To figure our total requirements we add

1170
600
7875

9,645 lbs. of N

needed for greens, tees and fairways for one season.

The next step in our practical mathematics is to convert pounds of N to tons of fertilizer before we can go to the chairman with a program.

A fertilizer that contains 5 percent N will carry 100 lbs. of N in one ton.

$$2000 \times .05 = 100$$

a 10 percent product carries 200 lbs. of N in a ton

$$2000 \times .10 = 200$$

a 20 percent product carries 400 lbs. of N in a ton

$$2000 \times .20 = 400$$

a 38 percent product carries 760 lbs. of N in a ton

$$2000 \times .38 = 760$$

a 45 percent product carries 900 lbs. of N in a ton

$$2000 \times .45 = 900$$

Let's now see how many tons of each product are required to yield the 9,645 pounds of N we need on our 18-hole course. By simple division:

5 percent product:

$$9645 \div 100 = 96.45 \text{ tons}$$

10 percent product:

$$9645 \div 200 = 48.22 \text{ tons}$$

20 percent product:

$$9645 \div 400 = 24.11 \text{ tons}$$

38 percent product:

$$9645 \div 760 = 12.7 \text{ tons}$$

45 percent product:

$$9645 \div 900 = 10.7 \text{ tons}$$

Now we know exactly the number of tons of the material of our choice that we must buy to get the N we need for the results we want. Next, all that needs to be done is to multiply tons x cost per ton and we get the figure we must match against the budget allowance.

The Art of Composting

There seems to be a general increase of interest in topdressing. The folly of mechanically mixing sand, soil and organic matter was dramatically demonstrated at a recent Penn State field day. Freshly-mixed materials, not composted, which were applied as topdressing failed dismally. The organic material floated, the soil entered the turf, and the sand was left on top as a layer.

Composting seems to be a lost art. Time



Harold Reed (r) played the season's 50,000th round in mid-November on Royal Oak (Mich.) GC. He is shown with Don Soper, PGA pro who built the 9-hole munny course in 1961-62 and operates it on a 20-year lease arrangement.

was when alternate layers of sod, lime, soil and organic materials were stacked high and allowed to "ripen" for a year. Cutting down the face and turning the pile mixed the materials. Another year in the pile, with more turnings, developed a homogeneous top-dressing or compost which was a soil and not just a mechanical mixture of ingredients.

Here is a worthwhile suggestion for modern-day composting in an open bed with minimum labor and maximum soil-building and aggregation of particles. In an open outdoor bed blend thoroughly 12 inches or more of a preferred topdressing mixture of sand, soil and organic materials. Lime to pH 7.0 and incorporate adequate P and K (25 lbs./M² of 0-20-20 or 0-25-25 is suggested as a starter) to full depth. Now plant Penngift crownvetch seed, freshly inoculated, at one pound to 1,000 sq. ft. (no more!). Allow the crownvetch (a deep-rooted, perennial legume) to grow unmolested for at least two years. One or two clippings the first year is permissible if weeds are heavy. Allow the cut weeds to lie on the ground. An occasional deep irrigating is permissible if needed.

This method of open-bed composting saves labor and achieves maximum soil-building through the great root system and the nitrogen gathering ability of the crownvetch. When compost is needed simply plow and screen for well-aggregated topdressing that is full of life.