Jeff & Jackie's DAYLILIES

179 Smith Road • Clinton, TN 37716 • (865) 435-4989

"We are building our reputation based on your satisfaction!"

Examples of soil test math

Example 1:

Our soil test report show the Mn (Manganese) to be 78 ppm (parts per million) and our desired level is 170 ppm. The micro-nutrient we have to use for this is ManganeseOxySulfate and the bag shows an analysis of Mn active to be 28% minimum. The bed we working has a 8" deep till and is 60 feet long by 12 feet wide. How much do we need in pounds for this bed?

We must first convert to the same units that we have in our formula.

Square feet = L X W: 60 X 12 = 720 sf.

Convert to thousand sf: sf ÷ 1000 = Ksf (thousand sf) 720 ÷ 1000 = **0.720 Ksf**

Putting the % element expressed as a decimal into the formula = % ÷ 100: 28% ÷ 100 = **0.28**

ppm increase desired = 170ppm - 78ppm = **92ppm** (170ppm is what we want, 78ppm is what we have, the difference of the two or the "increase desired" is the needed factor for the formula)

Inserting into the formula: (0.065 X ppm increase desired) ÷ % element = Lbs. / Ksf needed

(0.065 X 92) ÷ 0.28 = 21.4 Lbs / Ksf (Based on the recommendation, this is the application rate)

Correct to our till depth and convert to pounds needed for our bed:

application rate X sf. X (depth of till ÷ 9) = specific application rate
(21.4 Lbs/Ksf) X (0.720 Ksf) X (8 ÷ 9) = **13.6 Lbs.** (This is the amount that would be applied to this bed to raise the Mn ppm from 78 to 170)

Jeff & Jackie's DAYLILIES
179 Smith Road • Clinton, TN 37716 • (865) 435-4989
"We are building our reputation based on your satisfaction!"

Examples of soil test math

Example 2:

Our soil test reports shows that we need to add 2,000 pounds of lime per acre to achieve our pH goal of 6.5. Our bed is 8 feet wide and 72 feet long, which we have tilled 10 inches deep. The lime we bought at the Co-Op says that it's High Calcium, Grind #2, with a $CaCo_2$ equivalent of 80% guaranteed minimum analysis. How much do we need in pounds for this bed?

Discussion:

Liming recommendations are given in $CaCO_2$ equivalents based on a 6" depth of till. The grind and type of liming material chosen is most often related to this equivalent. This is essential since not all liming materials are equal in weight or activity. What this means is that we must convert what we have to what we need to use. Typically the finer the grind the faster the material will act, but most lime will take up to two years to fully activate. This will effect future soil tests within this time frame, and is a factor often ignored by the inexperienced, causing them to over lime a field. If this is the case seek professional advice when doing a soil test within two years of a lime application. A good soil testing lab should be able to compensate in their recommendations for this problem, if they know what, when, and how much you put on your field. It's always a good idea to keep records of everything you apply.

We must first convert to the same units that we have in our formula.
Square feet = L X W, 72 X = 576 sf. *or* 576 ÷ 1000 = 0.576 Ksf (if you like)
% activity *(instead of element this time)* expressed as a decimal = % ÷ 100 80% ÷ 100 = 0.80

2a)
Sf to Acres = Acres X 43,560 turning that around we have 576 ÷ 43,560 acres = 0.013223 acres

Correct to our depth of till and convert to pounds needed for our bed

application rate X area X (depth of till ÷ 9) = specific application rate
2,000 X 0.013233 X (10 ÷ 9) = **29.4 Lbs**

2b)
convert Lbs/acre to Lbs/Ksf (most of our work is done in Ksf so this is easier for us)
Acres to Ksf – acres : 43.6 Using the rate of 2000 lbs per acre, then 2000 ÷ 43.6 = 45.87 lbs/Ksf

Correct to depth of till and convert to pounds needed for specific bed
application rate X area X (depth of till ÷ 9) = specific application rate
(45.87 Lbs/Ksf) X (0.576 Ksf) X (10 ÷ 9) = **29.4 Lbs**