Phosphorous Conversions for Soil Tests

Generally Accepted Agricultural And Management Practices for Manure Management and Utilization (GAAMPS or Right to Farm Guidelines). Current as of December 2001. If soil tests fall within the following levels, these guidelines should be followed:

If soil test is under 150 lbs. per acre Bray P_1

It is acceptable to spread manure on this field as long as the nitrogen recommendation for the crop is not exceeded with the plant available nitrogen in the manure.

If the soil test is 150 to 300 lbs. per acre Bray P_1

Manure should be spread at crop removal rates for phosphorus (P).
Up to four years of crop removal P can be applied via manure as long as the nitrogen needs of the crop are not exceeded and that manure is not applied again for the 4 year period. Example: Three years of manure phosphorus can be applied in one season and no more manure for three years.

If the soil test is 300 lbs. per acre or greater Bray P_1

No manure should be applied until the soil test falls below 300 lbs. per acre to be in compliance with Right to Farm.

The above phosphorus levels are pounds of P as tested by the Bray P_1.
To convert other soil test values to the equivalent unit, use the appropriate conversion:

If a soil test lists the P as ppm:
    ppm X 2 = lbs. per acre P

If a soil test lists the P as lbs. per acre P_2O_5:
    lbs per acre P as $P_2O_5 \div 2.3$ = lbs. per acre P

If a soil test is Mehlich x 0.9 = P_2O_5

Lbs. P x 2.3 = lbs. P_2O_5
Lbs. $P_2O_5 \div 2.3$ = lbs. P

For Potash:
Lbs. K x 1.2 = lbs. K_2O
Lbs. $K_2O \div 1.2$ = lbs. K

Compiled by N. Rector
MSU Extension, March 2002

Conversions for interpreting manure tests

Right to Farm GAAMPs refer to nutrients as P_2O_5 and K_2O.
If the manure test reports nutrients as pounds per ton (solid manure) use the left hand column.
If the manure test reports nutrients as pounds per 1000 gallons (liquid manure) use the right hand column.

Conversion Factors

Solid Manure (lbs./Ton)
ppm P x 0.002 x 2.3 = lbs. P_2O_5 per ton
ppm K x 0.002 x 1.2 = lbs. K_2O per ton
percent P x 20 x 2.3 = lbs. P_2O_5 per ton
percent K x 20 x 1.2 = lbs. K_2O per ton

Liquid Manure (lbs./1,000 gal)
ppm P x 0.00835 x 2.3 = lbs. P_2O_5 per 1000 gal.
ppm K x 0.00835 x 1.2 = lbs. K_2O per 1000 gal.
percent P x 83.5 x 2.3 = lbs. P_2O_5 per 1000 gal.
percent K x 83.5 x 1.2 = lbs. K_2O per 1000 gal.

Compiled by Charles Gould
MSU Extension, Dec.2000

Additional information about manure management is available at www. MAEAP.org

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