

14.3.2 COMPOST FORMULAS

Presumptions (if not provided by your producer or lab): Two methods are presented below for converting compost applications per acre to lbs N per acre. The presumption for %N availability is based on an industry standard of 30% (0.30) availability of total N content of compost, and an average weight of 900 lbs per cubic yard of compost.

Example for Tons/Acre Compost Applied: Wet (as is) compost with 1.7% N content, applied at a rate of 5 tons per acre.

Step 1: Convert %N content to lbs N per ton of compost.

$$\frac{1.7 \text{ lbs N}}{100 \text{ lbs}} \times \frac{2000 \text{ lbs}}{\text{ton of compost}} = \frac{34 \text{ lbs N}}{\text{ton of compost}}$$

Step 2: Convert lbs N per ton of compost to lbs available N per ton of compost.

$$\frac{34 \text{ lbs N}}{\text{ton of compost}} \times \frac{0.30 \text{ lbs available}}{1 \text{ lb total N}} = \frac{10.2 \text{ lbs available}}{\text{ton of compost}}$$

Step 3: Multiply lbs of available N per ton by total tons applied per acre.

$$\frac{10.2 \text{ lbs available N}}{\text{ton of compost}} \times \frac{5 \text{ tons compost}}{\text{ac}} = \frac{51 \text{ lbs N}}{\text{ac}}$$

Example for Cubic Yards (CY)/Acre Compost Applied: Wet (as is) compost with 1.7% N content, applied at a rate of 5 cubic yards per acre.

Step 1: Convert %N content to lbs N per cubic yard of compost.

$$\frac{1.7 \text{ lbs N}}{100 \text{ lbs compost}} \times \frac{900 \text{ lbs}}{\text{cy of compost}} = \frac{15.3 \text{ lbs N}}{\text{cy of compost}}$$

Step 2: Convert lbs N per cubic yard of compost to lbs available N per cubic yard of compost.

$$\frac{15.3 \text{ lbs N}}{\text{cy of compost}} \times \frac{0.30 \text{ lbs available N}}{1 \text{ lb total N}} = \frac{4.6 \text{ lbs available N}}{\text{cy of compost}}$$

Step 3: Multiply lbs of available N per cubic yard by total cubic yards applied per acre.

$$\frac{4.6 \text{ lbs available N}}{\text{cy of compost}} \times \frac{5 \text{ cy of compost}}{\text{ac}} = \frac{23 \text{ lbs N}}{\text{ac}}$$