

GARDEN FERTILIZER CALCULATOR

Home Garden Series



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These worksheets calculate fertilizer application rates for gardens, garden beds, lawns, single plants, and short rows, based on fertilizer recommendations. It is a companion to *A Home Gardener's Guide to Soils and Fertilizers*, WSU Extension publication EM063E.

These worksheets do the calculations described in the "Fertilizer Calculation and Use" section of *A Home Gardener's Guide to Soils and Fertilizers* and can be used for any garden fertilizer calculation, including for both organic and conventional fertilizers.

To calculate the amount of fertilizer to use, you need the following:

1. A fertilizer recommendation

Garden and lawn fertilizer recommendations are typically given in pounds of nutrient per 1,000 square feet. Most recommendations range from one to four pounds N, and zero to three pounds P_2O_5 and K_2O per 1,000 square feet, depending on the crop and any soil test results. Some recommendations are given in ounces nutrient per plant or per short length of row.

Recommendations come from *A Home Gardener's Guide to Soils and Fertilizers*, other Extension publications, or soil test results.

2. Type of fertilizer you are using: organic or conventional

Most conventional fertilizers are fast-release and have 100% availability of nitrogen. Organic

fertilizers release nitrogen more slowly, and only a portion of the nitrogen is available during the growing season. This spreadsheet estimates N availability for organic fertilizers, based on the amount of nitrogen they contain. These estimates are based on research done at Washington State University and Oregon State University. See *A Home Gardener's Guide to Soils and Fertilizers* for details and references on organic N availability.

3. N-P-K in fertilizer products

The concentration of the primary nutrients, nitrogen (N), phosphorus (P), and potassium (K) are shown prominently on the fertilizer bag or box.

P concentration is actually expressed as "phosphate" (P_2O_5) and K as "potash" (K_2O), but these units are already accounted for in fertilizer recommendations, so we do not need to be concerned about them here.

4. Area of garden or lawn

Measure and calculate the area of the lawn, garden, or beds to receive fertilizer.

Choosing which worksheet to use

The calculator has two independent pages:

One for gardens, beds, and lawns where the recommendation is in pounds per 1,000 square feet, and one for individual plants or short rows where the recommendation is in ounces per plant or ounces per row length.

Each page has two worksheets:

One for conventional fertilizers, and one for organic (slow-release) fertilizers.

The conventional calculator assumes 100% quick availability of nitrogen, while the organic calculator assumes nitrogen availability ranging from 0% to 75% during the growing season, based on the nitrogen concentration of the fertilizer.

Choose the appropriate worksheet based on what your fertilizer recommendation is for—whether garden or lawn vs. individual plant(s) or short rows—and type of fertilizer (organic vs. conventional).

Inputting your information into a worksheet

Input the required information into the blue boxes in the appropriate worksheet: fertilizer N-P-K, fertilizer recommendation, and area to fertilize. Press “Enter” to calculate.

The calculations are based on the recommended nitrogen amounts. The Garden and Lawn Worksheets also show the amount of phosphorus and potassium supplied when you apply the fertilizer at the recommended nitrogen rate.

- *Garden and Lawn Worksheet*
- *Plant or Short Row Worksheet*



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