

Table 1.2-5. Fertilizer recommendations. (Not to be used in place of a soil test.)

The recommendations in this table are to be used only if you are growing a crop different from that given on your report form. These soil test recommendations cannot be as specific as those on your report form. Detailed recommendations for all agronomic crops can be found on the Agricultural Analytical Services Laboratory Web site at www.aasl.psu.edu.

To use this table, follow these steps:

1. Choose the "Soil Test Level" column that best represents your soil nutrient levels.
2. From the "Crop" column, select the crop for which you want the recommendation.

3. Follow this line horizontally across the sheet until you come to the column selected in step 1. Your fertilizer recommendation is in this block.

4. The total amount of required plant nutrients is given. Application instructions, such as those for using a starter fertilizer, or fall versus spring applications, also are noted. Adjustments for expected yields different from those in the table are given below.

Adjustments to recommendations

EXPECTED YIELD—Adjust the recommendation in the table for a different yield goal by increasing or decreasing the recommendation in the table proportionally. For example: To determine a corn grain recommendation

for an expected yield of 175 bu/A, multiply the 125 bu/A recommendation in the table by 1.4 ($175 \div 125 = 1.4$). For the low P and low K category, the new recommendation is 180-125-125.

PREVIOUS LEGUME—See Table 1.2-8 to adjust the N recommendation for a previous legume crop.

MANURE—These recommendations do not take into consideration plant nutrients in manure applied either previously or to the current crop. To determine how to adjust the recommendations for fertilizer nutrients in manure, see the "Manure Nutrient Management" section.

*Fertility recommendations given as N-P₂O₅-K₂O lb/A.

Crop (expected yield)	Soil test level*								
	Low P, Low K	Low P, Opt K	Low P, Hi K	Opt P, Low K	Opt P, Opt K	Opt P, Hi K	Hi P, Low K	Hi P, Opt K	Hi P, Hi K
Corn grain (125 bu/A)	130-90-90	130-90-30	130-90-0	130-50-90	130-50-30	130-50-0	130-0-90	130-0-30	130-0-0
Corn silage (21 T/A) or sorghum-sudangrass (25 T/A)	150-120-260	150-120-230	150-120-0	150-110-260	150-110-230	150-110-0	150-0-260	150-0-230	150-0-0

Notes: Corn grain, corn silage, sorghum-sudangrass: Use 100 to 300 lb/A of a starter fertilizer. On soils with excessive nutrient levels or for late planting on soils with optimum or higher nutrient levels, a starter fertilizer may not be necessary. For corn following a legume, reduce the N recommendation according to Table 1.2-8. For more efficient utilization, apply 50 to 90 percent of the nitrogen when the corn is 10 to 20 inches tall. When double cropping corn with rye, you can apply an additional 50 to 90 lb/A of nitrogen to the rye. For sorghum-sudangrass, apply all of the fertilizer before seeding.

Alfalfa (5 T/A)	0-130-280	0-130-250	0-130-0	0-80-280	0-80-250	0-80-0	0-0-280	0-0-250	0-0-0
Clover, trefoil, crownvetch (4 T/A)	0-120-190	0-120-160	0-120-0	0-60-190	0-60-160	0-60-0	0-0-190	0-0-160	0-0-0

Notes: Alfalfa, clover, trefoil, crownvetch: For establishment, especially under adverse conditions, banding 100 to 300 lb/A of a starter fertilizer may be beneficial. For no-till, use no starter nitrogen.

Cool-season grasses: orchardgrass, bromegrass, timothy, reed canarygrass (4 T/A)	200-110-230	200-110-200	200-110-0	200-60-230	200-60-200	200-60-0	200-0-230	200-0-200	200-0-0
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Notes: Grasses: For establishment, especially under adverse conditions, banding 100 to 300 lb/A of a starter fertilizer at planting may be beneficial. Apply 30 lb of nitrogen in late summer of the establishment year. For established stands, split the nitrogen into three applications before each cutting: spring, early summer (with P₂O₅ and K₂O), and early fall. Base the amount applied at each application time on the expected yield for the next cutting.

Soybeans (40 bu/A)	0-80-110	0-80-60	0-80-0	0-40-110	0-40-60	0-40-0	0-0-110	0-0-60	0-0-0
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Notes: Soybeans: Do not use a starter fertilizer with soybeans. When double cropping, add the P and K to the barley.

Wheat** (60 bu/A) or rye (40 bu/A)	60-90-120	60-90-110	60-90-0	60-60-120	60-60-110	60-60-0	60-0-120	60-0-110	60-0-0
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Notes—At planting time, 100 to 300 lb/A of a starter fertilizer may be applied, especially on low-testing soils or under adverse growing conditions. Do not apply more than 15 lb of nitrogen or 30 lb of nitrogen + potash through the drill. If plants didn't tiller well in fall, apply the N by mid-March; otherwise, apply the N any time up to growth stage 5.

Barley** (80 bu/A)	60-90-150	60-90-120	60-90-0	60-50-150	60-50-120	60-50-0	60-0-150	60-0-120	60-0-0
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Notes: At planting time, 100 to 300 lb/A of a starter fertilizer may be applied, especially on low-testing soils or under adverse growing conditions. Do not apply more than 15 lb of nitrogen or 30 lb of nitrogen + potash through the drill. If plants didn't tiller well in fall, apply the N by mid-March; otherwise, apply the N any time up to growth stage 5.

Oats, grain sorghum** (80 bu/A)	60-90-140	60-90-120	60-90-0	60-70-140	60-70-120	60-70-0	60-0-140	60-0-120	60-0-0
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Notes: Oats and grain sorghum: Apply 100 to 300 lb/A of a starter fertilizer. Do not apply more than 20 lb of nitrogen or 45 lb of nitrogen + potash through the drill. Apply the N with the other fertilizer before planting.

*Mehlich 3 soil test levels used to calculate the recommendations in this table are as follows:

Test level	P (ppm)	K (ppm)
Below optimum	15	50
Optimum	30	100
Above optimum	60	200

**Because of serious potential for lodging, it is very important to take the full credit for manure and residual N from previous manure applications for small grain crops.