



University of Wisconsin Nitrogen Guidelines for Corn

N: Corn Price Ratio (see table on other side)

0.05

0.10

0.15

0.20

Soil¹

Previous Crop

lbs N/acre (total to apply)²

high/very high
yield potential soils

• **Corn**, Forage legumes, Legume vegetables, Green manures⁵

• **Soybean**, Small grains⁶

170³

155----185⁴

140

125-----160

150

135----160

120

105-----135

130

120----145

105

95---115

115

105---125

95

80---105

medium/low
yield potential soils

• **Corn**, Forage legumes, Legume vegetables, Green manures⁵

• **Soybean**, Small grains⁶

125

110----140

110

90-----125

110

100--115

85

70---95

100

95--110

70

60---80

95

85--100

60

50---70

**sands/
loamy sands**

• Irrigated—**All crops**⁵

• Non-irrigated—**All crops**⁵

215

205---225

140

130---150

205

195---215

130

120---140

195

180---205

120

110---130

180

170---195

110

100---120

¹ To determine soil yield potential, consult UWEX publication A2809 or contact your county agent or agronomist.

² Includes N in starter.

³ Maximum return to N (MRTN) rate.

⁴ Profitability range within \$1/acre of MRTN rate.

⁵ Subtract N credits for forage legumes, legume vegetables, animal manures, green manures.

⁶ Subtract N credits for animal manures and second year forage legumes.

The University of Wisconsin's nitrogen (N) fertilizer guidelines for corn. This approach allows growers to determine N application rates that will provide maximum economic returns based on the cost of N and an anticipated price for corn. The N rate guidelines also provide a range of profitable N rates that are within \$1.00/acre of the maximum return rate.

ADDITIONAL GUIDELINES

- For maximum silage yield, use N rate for 0.05 price ratio. To adjust rates for silage, use price ratio that reflects typical prices for N and grain.
- If >50% residue at planting, use upper end of range.
- If all N is from organic sources, use top end of range. Plus, up to 20 lb N/acre as starter may be used.
- For medium & fine-textured soils with >10% soil organic matter, use low end of range; <2% OM, use high end of range.
- For coarse-textured, medium yield potential soils with <2% OM, use high end of range; >2% OM, use mid to low end of range.
- When corn follows small grains on medium & fine-textured soils, use the mid to low end of range.
- For irrigated, medium yield potential soils, use rates for high yield potential soils.
- If potential for carry-over (residual) N, use low end of range or use the high end and subtract preplant soil nitrate test (PPNT) credits.



This publication is available from the Nutrient and Pest Management (NPM) Program website (ipcm.wisc.edu); phone (608) 265-2660; email (npm@hort.wisc.edu). R-11-2010-7M
Partial funding provided by the Wisconsin Dept. of Agriculture, Trade & Consumer Protection.

N:Corn Price Ratio Table*

		Price of Corn (\$/bu corn)												
		4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00
Price of N = [\$/ton fertilizer x (100 / % N in fertilizer)] / 2000	Color Key for ratio (see other side)													
	0.05													
	0.10													
	0.15													
	0.20													
	0.45	0.11	0.11	0.10	0.10	0.09	0.09	0.08	0.08	0.08	0.07	0.07	0.07	0.06
	0.50	0.13	0.12	0.11	0.11	0.10	0.10	0.09	0.09	0.08	0.08	0.08	0.07	0.07
	0.55	0.13	0.13	0.12	0.12	0.11	0.11	0.10	0.10	0.09	0.09	0.08	0.08	0.08
	0.60	0.15	0.14	0.13	0.13	0.12	0.11	0.11	0.10	0.10	0.10	0.09	0.09	0.09
	0.65	0.16	0.15	0.14	0.14	0.13	0.12	0.12	0.11	0.11	0.10	0.10	0.10	0.09
	0.70	0.18	0.16	0.16	0.15	0.14	0.13	0.13	0.12	0.12	0.11	0.11	0.10	0.10
0.75	0.19	0.18	0.17	0.16	0.15	0.14	0.14	0.13	0.13	0.12	0.12	0.11	0.11	
0.80	0.20	0.19	0.18	0.17	0.16	0.15	0.15	0.14	0.13	0.13	0.12	0.12	0.11	
0.85	0.21	0.20	0.19	0.18	0.17	0.16	0.15	0.15	0.14	0.14	0.13	0.13	0.12	
0.90	0.23	0.21	0.20	0.19	0.18	0.17	0.16	0.16	0.15	0.14	0.14	0.13	0.13	
0.95	0.24	0.22	0.21	0.20	0.19	0.18	0.17	0.17	0.16	0.15	0.15	0.14	0.14	
1.00	0.25	0.24	0.22	0.21	0.20	0.19	0.18	0.17	0.17	0.16	0.15	0.15	0.14	

*to use an online calculator go to <http://www.soils.wisc.edu/extension/>