University of Wisconsin Nitrogen Guidelines for Corn

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

Soil[1]	Previous Crop	0.05	0.10	0.15	0.20
		lbs N/acre (total to apply)[2]			
loamy: high yield potential soils	**Corn**, Forage legumes, Legume vegetables, Green manures[5]	**190**[3] 170-------210[4]	**165** 155----180	**150** 140---160	**135** 125----150
	Soybean, Small grains[6]	**140** 125------160	**120** 105----130	**105** 95--115	**90** 80----105
loamy: medium yield potential soils	**Corn**, Forage legumes, Legume vegetables, Green manures[5]	**145** 130-----160	**125** 115----140	**115** 105---125	**105** 95--110
	Soybean, Small grains[6]	**130** 110-------150	**100** 85------120	**85** 70---95	**70** 60---80
sands/ loamy sands	Irrigated—**All crops**[5]	**215** 200-----230	**200** 185----210	**185** 175---195	**175** 165---185
	Non-irrigated—**All crops**[5]	**140** 130---150	**130** 120---140	**120** 110---130	**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.

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The University of Wisconsin's nitrogen (N) fertilizer guidelines for corn allow growers to determine N application rates that provide maximum economic returns based on the cost of N and an anticipated corn price. These guidelines also provide a range of profitable N rates that are within $1/acre of the maximum return rate. See UWEX publication A2809 *Nutrient Application Guidelines for Field, Vegetable, and Fruit Crops in Wisconsin*.

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 loamy (medium & fine-textured) soils with >10% soil organic matter (OM), use low end of range.
- For all soils with <2% soil OM, use high end of range.
- For sandy (coarse-textured) soils with <2% OM, use high end of range; 2-10% OM, use mid to low end of range; 10-20% OM, use non-irrigated guidelines–regardless of irrigation status; >20% OM, apply 80 lb N/acre.
- When corn follows small grains on loamy soils, use the mid to low end of range.
- For loamy irrigated or drained 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. web (ipcm.wisc.edu); phone (608) 265-2660; email (npm@hort.wisc.edu).

NPM

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Try our N rate app

N:Corn Price Ratio Table*

Color Key for ratio (see other side)

0.05
0.10
0.15
0.20

Price of Corn ($/bu corn)

Price of N ($/lb N)

Price of N = [$/ton fertilizer N x (100 / % N in fertilizer)] / 2000

	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50
0.25	0.10	0.09	0.08	0.08	0.07	0.07	0.06	0.06	0.06	0.05	0.05	0.05	0.05
0.30	0.12	0.11	0.10	0.09	0.09	0.08	0.08	0.07	0.07	0.06	0.06	0.06	0.05
0.35	0.14	0.13	0.12	0.11	0.10	0.09	0.09	0.08	0.08	0.07	0.07	0.07	0.06
0.40	0.16	0.15	0.13	0.12	0.11	0.11	0.10	0.09	0.09	0.08	0.08	0.08	0.07
0.45	0.18	0.16	0.15	0.14	0.13	0.12	0.11	0.11	0.10	0.10	0.09	0.09	0.08
0.50	0.20	0.18	0.17	0.15	0.14	0.13	0.13	0.12	0.11	0.11	0.10	0.10	0.09
0.55	0.22	0.20	0.18	0.17	0.16	0.15	0.13	0.13	0.12	0.12	0.11	0.11	0.10
0.60	0.24	0.22	0.20	0.18	0.17	0.16	0.14	0.14	0.13	0.13	0.12	0.11	0.11
0.65	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15	0.14	0.14	0.13	0.12	0.12
0.70	0.28	0.25	0.23	0.22	0.20	0.19	0.18	0.16	0.16	0.15	0.14	0.13	0.13
0.75	0.30	0.27	0.25	0.23	0.21	0.20	0.19	0.18	0.17	0.16	0.15	0.14	0.14
0.80	0.32	0.29	0.27	0.25	0.23	0.21	0.20	0.19	0.18	0.17	0.16	0.15	0.15

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