



University of Wisconsin Nitrogen Guidelines for Corn

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

Soil ¹	Previous Crop	N: Corn Price Ratio			
		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.

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.

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).

- 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.



Funding provided by the Wisconsin Dept. of Agriculture, Trade & Consumer Protection.



N:Corn Price Ratio Table*

		Price of Corn (\$/bu corn)												
		5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00
Color Key for ratio (see other side)	0.05	0.09	0.09	0.08	0.08	0.08	0.07	0.07	0.07	0.06	0.06	0.06	0.06	0.06
	0.10	0.10	0.10	0.09	0.09	0.08	0.08	0.08	0.07	0.07	0.07	0.07	0.06	0.06
	0.15	0.11	0.11	0.10	0.10	0.09	0.09	0.08	0.08	0.08	0.08	0.07	0.07	0.07
	0.20	0.12	0.11	0.11	0.10	0.10	0.10	0.09	0.09	0.09	0.08	0.08	0.08	0.08
	Price of N (\$/lb N)	0.13	0.12	0.12	0.11	0.11	0.10	0.10	0.10	0.09	0.09	0.09	0.08	0.08
	Price of N = [\$/ton fertilizer N x (100 / % N in fertilizer)] / 2000	0.14	0.13	0.13	0.12	0.12	0.11	0.11	0.10	0.10	0.10	0.09	0.09	0.09
		0.15	0.14	0.14	0.13	0.13	0.12	0.12	0.11	0.11	0.10	0.10	0.10	0.09
		0.16	0.15	0.15	0.14	0.13	0.13	0.12	0.12	0.11	0.11	0.11	0.10	0.10
		0.17	0.16	0.15	0.15	0.14	0.14	0.13	0.13	0.12	0.12	0.11	0.11	0.11
		0.18	0.17	0.16	0.16	0.15	0.14	0.14	0.13	0.13	0.12	0.12	0.12	0.11
		0.19	0.18	0.17	0.17	0.16	0.15	0.15	0.14	0.14	0.13	0.13	0.12	0.12
	0.20	0.19	0.18	0.17	0.17	0.16	0.15	0.15	0.14	0.14	0.13	0.13	0.13	

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