

Table 1.2-14. Manure nitrogen availability factors for use in determining manure application rates based on planning conditions.**A. Current Year**

To use this table, find the **planned manure application season** in the left column, then move to the right in that row and select the target crop utilization. Continue to the right in that row to find the **nitrogen availability factor** for the **planned manure application management**.

The manure nitrogen availability factor is the fertilizer equivalence of the manure N or the lb of fertilizer N equivalent per pound of total manure N. For example, if the N Availability Factor = 0.50, effectively there is the equivalent of 0.50 lb of fertilizer N for every pound of total N in the manure.

Planned manure application season	Planned manure target crop utilization	Application management	Nitrogen availability factor ¹		
			Poultry manure	Swine manure	Other manure
Spring or summer	Spring utilization by grass hay and small grains. Summer utilization by corn, other summer annuals, and grass hay.	Incorporation the same day	0.75	0.70	0.50
		Incorporation within 1 day	0.50	0.60	0.40
		Incorporation within 2–4 days	0.45	0.40	0.35
		Incorporation within 5–7 days	0.30	0.30	0.30
		Incorporation after 7 days or no incorporation	0.15	0.20	0.20
Early fall ^{2,3}	Early spring utilization by small grains, small grain silage, and grass hay, including the winter crop in a double-crop system	Incorporated less than 2 days	0.50	0.45	0.40
		Incorporated 3–7 days	0.30	0.30	0.30
		Incorporated more than 7 days or no incorporation	0.15	0.20	0.20
Early fall Additional N available to the summer crop in a double-crop system from manure applied in the fall for the winter crop (above) ^{2,4}	Summer utilization by the second crop, corn or other summer annuals, in a double-crop system	All methods of incorporation	0.15	0.20	0.20
Early fall with a cover crop not harvested and used as a green manure ²	Summer utilization by corn, other summer annuals, and grass hay	Incorporated less than 2 days	0.45	0.40	0.35
		Incorporated 3–7 days	0.25	0.25	0.25
		Incorporated more than 7 days or no incorporation	0.15	0.20	0.20
Early fall with no cover crop ²	Summer utilization by corn, other summer annuals, and grass hay	All methods of incorporation	0.15	0.20	0.20
Late fall or winter ⁵	Spring utilization by small grains and grass hay	All situations	0.50	0.45	0.40
		Following summer utilization by corn or other summer annuals			
		No cover crop	0.15	0.20	0.20
		Cover crop harvested for silage	0.15	0.20	0.20
	Cover crop used as green manure	0.50	0.45	0.40	
Grazing	Grazing anytime with nutrient uptake during growing season	Manure deposited more or less continuously by grazing cattle	0.15	0.20	0.20

1. Multiply this factor times the manure N content to estimate the manure N available for the planning conditions.
2. Early fall would be when it is still warm enough for plant growth and microbial activity to continue (soil temperature >50°F at 2 inches).
3. When manure is applied in the early fall to the winter crop in a double-crop system, use these factors to determine the N available to the winter crop.
4. Use these factors to determine the N available from the fall application in a double-crop system to the summer crop. These factors would be applied to the same manure application that was used for the winter crop (see footnote 3 above).
5. Late fall and winter is when it is so cold that there is no plant growth or microbial activity (soil temperature <50°F at 2 inches).

B. Historical Frequency of Manure Application on the Field

To use this table, determine the frequency of manure application and move to the right in the row to determine the amount of residual N that is available from past manure applications. Deduct this amount of residual N from the basic N recommendation before determining any additional fertilizer or manure application rates.

	Pounds N available to a summer crop (corn, grass hay, oats, etc.)	Pounds N available to a winter crop (wheat, barley, rye, etc.)	Pounds N available to the winter crop in a double-crop system	Pounds N available to the summer crop in a double-crop system
Rarely received manure in the past (<2 out of 5 years)	0	0	0	0
NOTE: If a field only received manure once out of 5 years, but this application was made the previous year, use the frequent credit for the following year.				
Frequently received manure (2–3 out of 5 years)	20	7	7	13
Continuously received manure (4–5 out of 5 years)	35	11	11	24