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Estimating Plant Available Nitrogen (PAN) in Manure

Manure	
 1. <u>Total nitrogen (N) content</u> - Expressed as percent (%) - Obtain value from the manure analysis. 	
 2. <u>Ammonium nitrogen (NH₄-N) content</u> - Expressed as % - Obtain value from the manure analysis. 	
 3. <u>Organic nitrogen content</u> Expressed as % Subtract ammonium nitrogen (NH₄-N) content (#2) from total nitrogen (N) content (#1). 	
 4. <u>Manure mineralization factor</u> - Expressed as a decimal. - Refer to the <i>Infocard</i>. 	
 5. <u>Available organic nitrogen</u> - Expressed as % - Multiply organic nitrogen content (#3) by the manure mineralization factor (#4). 	
 6. <u>Ammonium conservation factor</u> - Depends upon incorporation practices. - Refer to the <i>Infocard</i>. 	

7. Available ammonium nitrogen

- Expressed as %
- Multiply ammonium nitrogen (NH₄-N) content (**#2**) by the ammonium conservation factor (**#6**).

8. PAN in manure

- Expressed as lbs/ton or lbs/1000 gallons.
- Add the available ammonium nitrogen (#7) to the available organic nitrogen (#5).
- Then, multiply by 20 for solid/semi-solid manure or by 83.7 for liquid manure

Agricultural Nutrient Management Program

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