Estimating Plant Available Nitrogen (PAN) in Manure

Manure___________________________

1. **Total nitrogen (N) content**
   - Expressed as lbs./ton or lbs./1000 gallons.
   - Obtain value from the manure analysis.

2. **Ammonium nitrogen (NH₄⁺) content**
   - Expressed as lbs./ton or lbs./1000 gallons.
   - Obtain value from the manure analysis.

3. **Organic nitrogen content**
   - Expressed as lbs./ton or lbs./1000 gallons.
   - Subtract ammonium nitrogen (NH₄⁺) content (#2) from total nitrogen (N) content (#1).

4. **Manure mineralization factor**
   - Expressed as a decimal.
   - Refer to the *Infocard*.

5. **Available organic nitrogen**
   - Expressed as lbs./ton or lbs./1000 gallons.
   - Multiply organic nitrogen content (#3) by the manure mineralization factor (#4).

6. **Ammonium conservation factor**
   - Depends upon incorporation practices.
   - Refer to the *Infocard*.

7. **Available ammonium nitrogen**
   - Expressed as lbs./ton or lbs./1000 gallons.
   - Multiply ammonium nitrogen (NH₄⁺) 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).