Table 1.2-15. Factors for calculating manure nitrogen availability based on time of application, incorporation, field history, and manure analysis with ammonium and organic N fractions. Recommended for all manures, but required for atypical or treated manures.

The manure nitrogen availability factor is the fertilizer equivalence of the manure N or the lb of fertilizer N equivalent per pound of ammonium or organic manure N. For example, if the ammonium N Availability Factor = 0.80, effectively there is the equivalent of 0.80 lb of fertilizer N for every pound of ammonium N in the manure. Likewise, if the organic N Availability Factor = 0.35, effectively there is the equivalent of 0.35 lb of fertilizer N for every pound of organic N in the manure.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | **TOTAL MANURE N** | | | | | | |
| | | | | | | | | | |
| **AMMONIUM N ANALYSIS** | | | | | **ORGANIC N ANALYSIS** (total N – ammonium N) | | | | |
| **Spring/summer** | | | | | **Organic N decomposed during year applied** | | | | |
| For spring utilization by small grains and grass hay and summer utilization by corn, other summer annuals, and grass hay | | | | | | | | | |
| Days to incorp.[1] | Poultry[2] | Other[2] | Compost | | | Poultry | Swine | Other | Compost |
| Immediately | 0.90 | 0.80 | 0.80 | | Summer crop | 0.60 | 0.50 | 0.35 | 0.10 |
| 1 | 0.80 | 0.60 | 0.60 | | Winter crop | 0.40 | 0.30 | 0.25 | 0.10 |
| 2–4 | 0.60 | 0.40 | 0.40 | | | | | | |
| 5–7 | 0.40 | 0.20 | 0.20 | | Additional organic N available to the summer crop in a double-crop system from manure applied in the fall for the winter crop (above) | | | | |
| >7 | 0.20 | 0.10 | 0.10 | | Summer crop | 0.30 | 0.25 | 0.20 | 0.10 |
| | | | | | | | | | |
| **Early fall[3]** | | | | | **Organic N decomposed from past applications** | | | | |
| For fall and spring use by grass hay, small grains, small grain silage | | | | | Manure applied | Manure | | Compost | |
| Days to incorp.[1] | Poultry[2] | Other[2] | Compost | | 1 yr ago | 0.12 | | 0.05 | |
| | | | | | 2 yrs ago | 0.05 | | 0.02 | |
| 0–2 | 0.80 | 0.60 | 0.40 | | 3 yrs ago | 0.02 | | 0.01 | |
| 3–7 | 0.50 | 0.30 | 0.20 | | 4 yrs ago | 0.02 | | 0.01 | |
| >7 | 0.20 | 0.10 | 0 | | 5 yrs ago | 0.01 | | 0.01 | |
| For following summer utilization by a summer crop following a non-harvested cover crop used as a green manure | | | | | | | | | |
| 0–2 | 0.45 | 0.35 | 0.35 | | | | | | |
| 3–7 | 0.20 | 0.15 | 0.15 | | | | | | |
| >7 | 0 | 0 | 0 | | | | | | |
| For following summer utilization by a summer crop following a harvested winter crop or no winter crop<br>No ammonium -N credit | | | | | | | | | |
| | | | | | | | | | |
| **Late fall/winter [4]** | | | | | | | | | |
| For following summer utilization by a summer crop following a harvested winter crop or no winter crop | | | | | | | | | |
| | | | | | | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| No ammonium -N credit | | | | | | | | |
| For spring use by grass hay or small grains, or summer use by corn or summer annuals *with green manure cover crop* | | | | | | | | |
| | Poultry[2] | Other | Compost | | | | | |
| All Situations | 0.60 | 0.50 | 0.50 | | | | | |
| | | | | | | | | |
| 1. Mechanical incorporation or incorporation by 0.5 inch of rain.<br>2. Increase these factors by 0.2 after one day for very liquid manures (<5 percent solids) to account for soaking-in on application.For spring use by grass hay or small grains, or summer use by corn or summer annuals with green manure cover crop<br>3. Early fall would be when it is still warm enough for plant growth and microbial activity to continue (soil temperature >50ºF at 2 inches).<br>4. Late fall and winter is when it is so cold that there is no plant growth or microbial activity (soil temperature <50ºF at 2 inches). | | | | | | | | |

Adapted from Klausner and Bouldin, Cornell University; Jokela, University of Vermont; and Sims, University of Delaware.