

**DRAFT 5/25/11**

**APPENDIX 1**

**LAND APPLICATION OF MANURE**

**A supplement to Manure Management for Environmental Protection**

**MANURE APPLICATION  
RATE CHARTS AND INSTRUCTIONS  
2011**



**pennsylvania**

DEPARTMENT OF ENVIRONMENTAL PROTECTION

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## How to use the tables to determine the manure application rate.

This example is for the first row in the Manure Management Plan Summary. Selections in the table for this example are highlighted.

1. Find the appropriate table for the Crop, and Rate Basis (N or P)
  - In the example this would be the “Corn Silage, Nitrogen Based Table)
2. In that table find the type of manure that will be applied
  - In the example this would be “Liquid Dairy”
3. Then find the manure application management under the manure type that best matches your management
  - In the example this would be “Spring Unincorporated”
4. Then find the appropriate yield groups at the top of the table
  - In the example this would be “21-25 ton/A”
5. Where these two intersect is the maximum rate that can be applied and the amount of additional N that will be required if that rate is applied
  - In the example this would be “16000 gal/A + 70 lb of N fertilizer/A”
6. Choose a planned rate that is less than or equal to the maximum rate in the table
  - In the example this is “9000 gal/A”
7. If the planned rate is less than the maximum rate use the last column in that row in the table to adjust the supplemental N fertilizer requirement
  - In the example since the maximum rate was 16000 gal/A and the planned rate was 9000 gal/A the difference is 7000 gal/A there for multiply the factor in the last column in the row by 7 to determine the N fertilizer adjustment.
  - In the example this would be  $7 \times 6 = 42$  lb N fertilizer/A more will be needed.
  - Add this to the amount of N that was needed for the maximum rate to get the final N fertilizer rater. In the example this would be 70 lb N/A (from table) + 42 lb N/A calculated above for a total of 112 lb N/A.
8. Enter the planned manure rate and the supplemental fertilizer in the “Manure Management Plan Summary” Note that in the summary the planned N was rounded to 110 lb N/A.

### **Corn Silage**

#### **Nitrogen Based**

| <b>Liquid Dairy</b>  | Yield Groups (ton/A) |           |                 |           |                 |           | Increase N<br>fertilizer/1000 gal<br>manure rate reduction<br>from rate in table |
|----------------------|----------------------|-----------|-----------------|-----------|-----------------|-----------|--|
|                      | 17-21                |           | <b>21-25</b>    |           | 25-29           |           |  |
|                      | Manure<br>gal/A      | Fert<br>N | Manure<br>gal/A | Fert<br>N | Manure<br>gal/A | Fert<br>N |  |
| Spring Inc. 1 day    | 9000                 | 0         | 11000           | 0         | 14000           | 0         | 14   |
| Spring In. 1 week    | 13000                | 0         | 16000           | 0         | 16000           | 35        | 10   |
| <b>Spring Uninc.</b> | 16000                | 40        | <b>16000</b>    | <b>70</b> | 16000           | 100       | <b>6</b>   |
| Fall                 | 16000                | 40        | 16000           | 70        | 16000           | 100       | 6  |
| Winter w/cover crop  | 5000                 | 75        | 5000            | 105       | 5000            | 135       | 11   |
| Winter No cover crop | 5000                 | 100       | 5000            | 130       | 5000            | 160       | 6  |

NOTE: Only the part of the table for this example is shown here.

## IMPORTANT NOTES ABOUT THE MANURE RATE TABLES

(Maybe these should be footnotes on all of the tables?)

1. Maximum nitrogen (N) based rates in these tables are based on applying no more N than can be used by the current crop or limiting phosphorus to the maximum that would be recommended for that crop on a soil test report in PA, whichever is lower. This second "P" criteria is why in the N based tables some of the manure rates seem low and there is significant N fertilizer recommended. Using the Nutrient Balance Sheet (NBS) approach and the P Index may allow higher manure application rates depending on the site specific information for the field.
2. For liquid manure there is a 9000 gal per acre cap on the amount of liquid that can be applied in one application. Therefore, if a rate in the table is greater than 9000 gal/A, this will have to be split into multiple applications so that no one application exceeds this cap.
3. In the phosphorus based tables the allowable rates of poultry manure application can be very low and in some cases not possible to apply with common application equipment. For poultry manure, banking is allowed to overcome this problem. Banking means applying manure at a higher rate in one year to supply enough P for several years but then no manure or other P application in the subsequent years until the banked P is utilized. However, the rate of application can never exceed the N based rate. (See the Banking Example below.)

Banking Example

Spring application of broiler manure incorporated within a week for corn for grain at 160-190 bu/A yield level would be limited to 1 ton per acre plus 135 lb N/A based on P in the table. (See bolded entries in the table below. Only the applicable part of the table is shown here.)

Corn Grain

Phosphorus Based

| Broiler                  | Yield Groups (bu/A) |             |            |             |                   |                    |            |             | Increase N fertilizer/ton manure rate reduction from rate in table |
|--------------------------|---------------------|-------------|------------|-------------|-------------------|--------------------|------------|-------------|--|
|                          | 100-130             |             | 130-160    |             | <b>160-190</b>    |                    | 190-220    |             |  |
|                          | Manure t/A          | Fert N lb/A | Manure t/A | Fert N lb/A | <b>Manure t/A</b> | <b>Fert N lb/A</b> | Manure t/A | Fert N lb/A |  |
| Spring Inc. 1 day        | 1                   | 50          | 1          | 80          | 1                 | 110                | 1          | 140         | 59   |
| <b>Spring In. 1 week</b> | 1                   | 75          | 1          | 105         | <b>1</b>          | <b>135</b>         | 1          | 165         | 36   |
| Spring Uninc.            | 1                   | 100         | 1          | 130         | 1                 | 160                | 1          | 190         | 12   |
| Fall                     | 1                   | 100         | 1          | 130         | 1                 | 160                | 1          | 190         | 12   |
| Winter w/cover crop      | 1                   | 70          | 1          | 100         | 1                 | 130                | 1          | 160         | 40   |
| Winter No cover crop     | 1                   | 100         | 1          | 130         | 1                 | 160                | 1          | 190         | 12   |

With banking we could propose applying 3 ton/A in one year, which would meet the P requirements of this crop for 3 years, and be more practical to apply. Then no additional manure or P could be applied in the following 2 years. For this to be acceptable, the multiple year P based rate (3 ton/A in this example) cannot exceed N based rate for the same management in the year the manure is applied. Check this in the N based table which indicates that for a spring application of broiler manure incorporated within a week for corn for grain at 160-190 bu/A yield level would be limited to 3 ton per acre plus 65 lb N/A. Thus the 3 ton/A banked rate would not exceed the N based rate and would thus be acceptable. The N fertilizer recommendation (65 lb N/A) from the N based table would be used in the year of manure application. The full recommended N fertilizer would have to be applied in the following 2 years when manure is not applied. (See bolded entries in the table below. Only the applicable part of the table is shown here.)

**Corn Grain**

**Nitrogen Based**

| Broiler                  | Yield Groups (bu/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|--------------------------|---------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                          | 100-130             |                | 130-160       |                | 160-190       |                | 190-220       |                |  |
|                          | Manure<br>t/A       | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| Spring Inc. 1 day        | 2                   | 0              | 2             | 20             | 3             | 0              | 3             | 20             | 59   |
| <b>Spring In. 1 week</b> | 3                   | 0              | 3             | 35             | <b>3</b>      | <b>65</b>      | 3             | 95             | 36   |
| Spring Uninc.            | 3                   | 75             | 3             | 105            | 3             | 135            | 3             | 165            | 12   |
| Fall                     | 3                   | 75             | 3             | 105            | 3             | 135            | 3             | 165            | 12   |
| Winter w/cover crop      | 2                   | 30             | 2             | 60             | 2             | 90             | 2             | 120            | 40   |
| Winter No cover crop     | 2                   | 85             | 2             | 115            | 2             | 145            | 2             | 175            | 12   |

**Corn Grain  
Nitrogen Based**

|                      | Yield Groups (bu/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reducton<br>from rate in table |
|----------------------|---------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---|
|                      | 100-130             |                | 130-160       |                | 160-190       |                | 190-220       |                |   |
|                      | Manure<br>t/A       | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |   |
| <b>Solid Dairy</b>   |                     |                |               |                |               |                |               |                |   |
| Spring Inc. 1 day    | 20                  | 10             | 30            | 0              | 35            | 0              | 40            | 0              | 5   |
| Spring In. 1 week    | 30                  | 0              | 40            | 0              | 50            | 0              | 50            | 25             | 4   |
| Spring Uninc.        | 50                  | 10             | 50            | 40             | 50            | 70             | 50            | 100            | 2   |
| Fall                 | 50                  | 10             | 50            | 40             | 50            | 70             | 50            | 100            | 2   |
| Winter w/cover crop  | 20                  | 30             | 20            | 60             | 20            | 90             | 20            | 120            | 4   |
| Winter No cover crop | 20                  | 70             | 20            | 100            | 20            | 130            | 20            | 160            | 2   |

|                      | Yield Groups (bu/A) |                |                 |                |                 |                |                 |                | Increase N<br>fertilizer/1000 gal<br>manure rate reducton<br>from rate in table |
|----------------------|---------------------|----------------|-----------------|----------------|-----------------|----------------|-----------------|----------------|---|
|                      | 100-130             |                | 130-160         |                | 160-190         |                | 190-220         |                |   |
|                      | Manure<br>gal/A     | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A |   |
| <b>Liquid Dairy</b>  |                     |                |                 |                |                 |                |                 |                |   |
| Spring Inc. 1 day    | 8000                | 0              | 10000           | 0              | 12000           | 0              | 14000           | 0              | 14  |
| Spring In. 1 week    | 11000               | 0              | 14000           | 0              | 16000           | 15             | 16000           | 45             | 10  |
| Spring Uninc.        | 16000               | 20             | 16000           | 50             | 16000           | 80             | 16000           | 110            | 6   |
| Fall                 | 16000               | 20             | 16000           | 50             | 16000           | 80             | 16000           | 110            | 6   |
| Winter w/cover crop  | 5000                | 55             | 5000            | 85             | 5000            | 115            | 5000            | 145            | 11  |
| Winter No cover crop | 5000                | 80             | 5000            | 110            | 5000            | 140            | 5000            | 170            | 6   |

|                      | Yield Groups (bu/A) |                |                 |                |                 |                |                 |                | Increase N<br>fertilizer/1000 gal<br>manure rate reducton<br>from rate in table |
|----------------------|---------------------|----------------|-----------------|----------------|-----------------|----------------|-----------------|----------------|---|
|                      | 100-130             |                | 130-160         |                | 160-190         |                | 190-220         |                |   |
|                      | Manure<br>gal/A     | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A |   |
| <b>Liquid Swine</b>  |                     |                |                 |                |                 |                |                 |                |   |
| Spring Inc. 1 day    | 5000                | 0              | 6000            | 0              | 8000            | 0              | 9000            | 0              | 22  |
| Spring In. 1 week    | 9000                | 0              | 9000            | 30             | 9000            | 60             | 9000            | 90             | 12  |
| Spring Uninc.        | 9000                | 55             | 9000            | 85             | 9000            | 115            | 9000            | 145            | 6   |
| Fall                 | 9000                | 55             | 9000            | 85             | 9000            | 115            | 9000            | 145            | 6   |
| Winter w/cover crop  | 5000                | 40             | 5000            | 70             | 5000            | 100            | 5000            | 130            | 14  |
| Winter No cover crop | 5000                | 80             | 5000            | 110            | 5000            | 140            | 5000            | 170            | 6   |

|                      | Yield Groups (bu/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reducton<br>from rate in table |
|----------------------|---------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---|
|                      | 100-130             |                | 130-160       |                | 160-190       |                | 190-220       |                |   |
|                      | Manure<br>t/A       | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |   |
| <b>Layer</b>         |                     |                |               |                |               |                |               |                |   |
| Spring Inc. 1 day    | 4                   | 0              | 4             | 30             | 4             | 60             | 4             | 90             | 28  |
| Spring In. 1 week    | 4                   | 45             | 4             | 75             | 4             | 105            | 4             | 135            | 17  |
| Spring Uninc.        | 4                   | 90             | 4             | 120            | 4             | 150            | 4             | 180            | 6   |
| Fall                 | 4                   | 90             | 4             | 120            | 4             | 150            | 4             | 180            | 6   |
| Winter w/cover crop  | 3                   | 55             | 3             | 85             | 3             | 115            | 3             | 145            | 19  |
| Winter No cover crop | 3                   | 95             | 3             | 125            | 3             | 155            | 3             | 185            | 6   |

**Corn Grain  
Nitrogen Based**

|                      | Yield Groups (bu/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reducton<br>from rate in table |
|----------------------|---------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---|
|                      | 100-130             |                | 130-160       |                | 160-190       |                | 190-220       |                |   |
|                      | Manure<br>t/A       | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |   |
| <b>Broiler</b>       |                     |                |               |                |               |                |               |                |   |
| Spring Inc. 1 day    | 2                   | 0              | 2             | 20             | 3             | 0              | 3             | 20             | 59  |
| Spring In. 1 week    | 3                   | 0              | 4             | 0              | 4             | 30             | 4             | 60             | 36  |
| Spring Uninc.        | 4                   | 65             | 4             | 95             | 4             | 125            | 4             | 155            | 12  |
| Fall                 | 4                   | 65             | 4             | 95             | 4             | 125            | 4             | 155            | 12  |
| Winter w/cover crop  | 3                   | 0              | 3             | 20             | 3             | 50             | 3             | 80             | 40  |
| Winter No cover crop | 3                   | 75             | 3             | 105            | 3             | 135            | 3             | 165            | 12  |

|                      | Yield Groups (bu/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reducton<br>from rate in table |
|----------------------|---------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---|
|                      | 100-130             |                | 130-160       |                | 160-190       |                | 190-220       |                |   |
|                      | Manure<br>t/A       | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |   |
| <b>Beef Cow/Calf</b> |                     |                |               |                |               |                |               |                |   |
| Spring Inc. 1 day    | 20                  | 0              | 25            | 0              | 30            | 0              | 30            | 35             | 6   |
| Spring In. 1 week    | 30                  | 0              | 30            | 25             | 30            | 55             | 30            | 85             | 4   |
| Spring Uninc.        | 30                  | 45             | 30            | 75             | 30            | 105            | 30            | 135            | 2   |
| Fall                 | 30                  | 45             | 30            | 75             | 30            | 105            | 30            | 135            | 2   |
| Winter w/cover crop  | 20                  | 20             | 20            | 50             | 20            | 80             | 20            | 110            | 4   |
| Winter No cover crop | 20                  | 65             | 20            | 95             | 20            | 125            | 20            | 155            | 2   |

|                      | Yield Groups (bu/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reducton<br>from rate in table |
|----------------------|---------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---|
|                      | 100-130             |                | 130-160       |                | 160-190       |                | 190-220       |                |   |
|                      | Manure<br>t/A       | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |   |
| <b>Beef Steer</b>    |                     |                |               |                |               |                |               |                |   |
| Spring Inc. 1 day    | 15                  | 0              | 20            | 0              | 25            | 0              | 30            | 0              | 7   |
| Spring In. 1 week    | 20                  | 10             | 30            | 0              | 35            | 0              | 40            | 0              | 5   |
| Spring Uninc.        | 40                  | 0              | 40            | 30             | 40            | 60             | 40            | 90             | 3   |
| Fall                 | 40                  | 0              | 40            | 30             | 40            | 60             | 40            | 90             | 3   |
| Winter w/cover crop  | 20                  | 0              | 20            | 30             | 20            | 60             | 20            | 90             | 6   |
| Winter No cover crop | 20                  | 55             | 20            | 85             | 20            | 115            | 20            | 145            | 3   |

|                      | Yield Groups (bu/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reducton<br>from rate in table |
|----------------------|---------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---|
|                      | 100-130             |                | 130-160       |                | 160-190       |                | 190-220       |                |   |
|                      | Manure<br>t/A       | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |   |
| <b>Horse</b>         |                     |                |               |                |               |                |               |                |   |
| Spring Inc. 1 day    | 20                  | 0              | 25            | 0              | 30            | 0              | 35            | 0              | 6   |
| Spring In. 1 week    | 25                  | 0              | 35            | 0              | 40            | 0              | 40            | 30             | 4   |
| Spring Uninc.        | 40                  | 15             | 40            | 45             | 40            | 75             | 40            | 105            | 2   |
| Fall                 | 40                  | 15             | 40            | 45             | 40            | 75             | 40            | 105            | 2   |
| Winter w/cover crop  | 20                  | 15             | 20            | 45             | 20            | 75             | 20            | 105            | 5   |
| Winter No cover crop | 20                  | 60             | 20            | 90             | 20            | 120            | 20            | 150            | 2   |

No more than 9000 gal/A of liquid manure can be applied in a single application.  
Spilt higher rates into multiple applications.

**Corn Grain After Alfalfa  
Nitrogen Based**

|                      | Yield Groups (bu/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|---------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 100-130             |                | 130-160       |                | 160-190       |                | 190-220       |                |  |
|                      | Manure<br>t/A       | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Solid Dairy</b>   |                     |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 10                  | 0              | 15            | 0              | 20            | 0              | 20            | 10             | 5  |
| Spring In. 1 week    | 15                  | 0              | 20            | 0              | 25            | 0              | 30            | 0              | 4  |
| Spring Uninc.        | 25                  | 0              | 35            | 0              | 45            | 0              | 50            | 10             | 2  |
| Fall                 | 25                  | 0              | 35            | 0              | 45            | 0              | 50            | 10             | 2  |
| Winter w/cover crop  | 15                  | 0              | 20            | 0              | 20            | 10             | 20            | 30             | 4  |
| Winter No cover crop | 20                  | 10             | 20            | 30             | 20            | 50             | 20            | 70             | 2  |

|                      | Yield Groups (bu/A) |                |                 |                |                 |                |                 |                | Increase N<br>fertilizer/1000 gal<br>manure rate reduction<br>from rate in table |
|----------------------|---------------------|----------------|-----------------|----------------|-----------------|----------------|-----------------|----------------|--|
|                      | 100-130             |                | 130-160         |                | 160-190         |                | 190-220         |                |  |
|                      | Manure<br>gal/A     | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A |  |
| <b>Liquid Dairy</b>  |                     |                |                 |                |                 |                |                 |                |  |
| Spring Inc. 1 day    | 4000                | 0              | 5000            | 0              | 6000            | 0              | 8000            | 0              | 14   |
| Spring In. 1 week    | 5000                | 0              | 7000            | 0              | 9000            | 0              | 11000           | 0              | 10   |
| Spring Uninc.        | 9000                | 0              | 13000           | 0              | 16000           | 0              | 16000           | 20             | 6  |
| Fall                 | 9000                | 0              | 13000           | 0              | 16000           | 0              | 16000           | 20             | 6  |
| Winter w/cover crop  | 4000                | 0              | 5000            | 15             | 5000            | 35             | 5000            | 55             | 11   |
| Winter No cover crop | 5000                | 20             | 5000            | 40             | 5000            | 60             | 5000            | 80             | 6  |

|                      | Yield Groups (bu/A) |                |                 |                |                 |                |                 |                | Increase N<br>fertilizer/1000 gal<br>manure rate reduction<br>from rate in table |
|----------------------|---------------------|----------------|-----------------|----------------|-----------------|----------------|-----------------|----------------|--|
|                      | 100-130             |                | 130-160         |                | 160-190         |                | 190-220         |                |  |
|                      | Manure<br>gal/A     | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A |  |
| <b>Liquid Swine</b>  |                     |                |                 |                |                 |                |                 |                |  |
| Spring Inc. 1 day    | 2000                | 0              | 3000            | 0              | 4000            | 0              | 5000            | 0              | 22   |
| Spring In. 1 week    | 4000                | 0              | 6000            | 0              | 7000            | 0              | 9000            | 0              | 12   |
| Spring Uninc.        | 8000                | 0              | 9000            | 15             | 9000            | 35             | 9000            | 55             | 6  |
| Fall                 | 8000                | 0              | 9000            | 15             | 9000            | 35             | 9000            | 55             | 6  |
| Winter w/cover crop  | 4000                | 0              | 5000            | 0              | 5000            | 20             | 5000            | 40             | 14   |
| Winter No cover crop | 5000                | 20             | 5000            | 40             | 5000            | 60             | 5000            | 80             | 6  |

|                      | Yield Groups (bu/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|---------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 100-130             |                | 130-160       |                | 160-190       |                | 190-220       |                |  |
|                      | Manure<br>t/A       | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Layer</b>         |                     |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 2                   | 0              | 3             | 0              | 3             | 0              | 4             | 0              | 28   |
| Spring In. 1 week    | 3                   | 0              | 4             | 0              | 4             | 25             | 4             | 45             | 17   |
| Spring Uninc.        | 4                   | 30             | 4             | 50             | 4             | 70             | 4             | 90             | 6  |
| Fall                 | 4                   | 30             | 4             | 50             | 4             | 70             | 4             | 90             | 6  |
| Winter w/cover crop  | 3                   | 0              | 3             | 15             | 3             | 35             | 3             | 55             | 19   |
| Winter No cover crop | 3                   | 35             | 3             | 55             | 3             | 75             | 3             | 95             | 6  |

**Corn Grain After Alfalfa  
Nitrogen Based**

|                      | Yield Groups (bu/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|---------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 100-130             |                | 130-160       |                | 160-190       |                | 190-220       |                |  |
|                      | Manure<br>t/A       | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Broiler</b>       |                     |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 1                   | 0              | 1             | 10             | 2             | 0              | 2             | 0              | 59   |
| Spring In. 1 week    | 1                   | 15             | 2             | 0              | 3             | 0              | 3             | 0              | 36   |
| Spring Uninc.        | 4                   | 0              | 4             | 25             | 4             | 45             | 4             | 65             | 12   |
| Fall                 | 4                   | 0              | 4             | 25             | 4             | 45             | 4             | 65             | 12   |
| Winter w/cover crop  | 1                   | 10             | 2             | 0              | 2             | 10             | 3             | 0              | 40   |
| Winter No cover crop | 3                   | 15             | 3             | 35             | 3             | 55             | 3             | 75             | 12   |

|                      | Yield Groups (bu/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|---------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 100-130             |                | 130-160       |                | 160-190       |                | 190-220       |                |  |
|                      | Manure<br>t/A       | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Beef Cow/Calf</b> |                     |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 10                  | 0              | 15            | 0              | 15            | 0              | 20            | 0              | 6  |
| Spring In. 1 week    | 15                  | 0              | 20            | 0              | 25            | 0              | 30            | 0              | 4  |
| Spring Uninc.        | 25                  | 0              | 30            | 0              | 30            | 25             | 30            | 45             | 2  |
| Fall                 | 25                  | 0              | 30            | 0              | 30            | 25             | 30            | 45             | 2  |
| Winter w/cover crop  | 10                  | 0              | 15            | 0              | 20            | 0              | 20            | 20             | 4  |
| Winter No cover crop | 20                  | 0              | 20            | 25             | 20            | 45             | 20            | 65             | 2  |

|                      | Yield Groups (bu/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|---------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 100-130             |                | 130-160       |                | 160-190       |                | 190-220       |                |  |
|                      | Manure<br>t/A       | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Beef Steer</b>    |                     |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 5                   | 15             | 10            | 0              | 15            | 0              | 15            | 0              | 7  |
| Spring In. 1 week    | 10                  | 0              | 15            | 0              | 20            | 0              | 20            | 10             | 5  |
| Spring Uninc.        | 20                  | 0              | 25            | 0              | 30            | 0              | 40            | 0              | 3  |
| Fall                 | 20                  | 0              | 25            | 0              | 30            | 0              | 40            | 0              | 3  |
| Winter w/cover crop  | 10                  | 0              | 15            | 0              | 15            | 0              | 20            | 0              | 6  |
| Winter No cover crop | 20                  | 0              | 20            | 15             | 20            | 35             | 20            | 55             | 3  |

|                      | Yield Groups (bu/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|---------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 100-130             |                | 130-160       |                | 160-190       |                | 190-220       |                |  |
|                      | Manure<br>t/A       | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Horse</b>         |                     |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 10                  | 0              | 10            | 10             | 15            | 0              | 20            | 0              | 6  |
| Spring In. 1 week    | 10                  | 0              | 15            | 0              | 20            | 0              | 25            | 0              | 4  |
| Spring Uninc.        | 20                  | 0              | 30            | 0              | 40            | 0              | 40            | 15             | 2  |
| Fall                 | 20                  | 0              | 30            | 0              | 40            | 0              | 40            | 15             | 2  |
| Winter w/cover crop  | 10                  | 0              | 15            | 0              | 20            | 0              | 20            | 15             | 5  |
| Winter No cover crop | 20                  | 0              | 20            | 20             | 20            | 40             | 20            | 60             | 2  |

No more than 9000 gal/A of liquid manure can be applied in a single application.  
Spilt higher rates into multiple applications.

**Corn Grain After Soybean  
Nitrogen Based**

|                      | Yield Groups (bu/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reducton<br>from rate in table |
|----------------------|---------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---|
|                      | 100-130             |                | 130-160       |                | 160-190       |                | 190-220       |                |   |
|                      | Manure<br>t/A       | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |   |
| <b>Solid Dairy</b>   |                     |                |               |                |               |                |               |                |   |
| Spring Inc. 1 day    | 15                  | 0              | 20            | 0              | 20            | 10             | 25            | 0              | 5   |
| Spring In. 1 week    | 20                  | 0              | 25            | 0              | 30            | 0              | 35            | 0              | 4   |
| Spring Uninc.        | 35                  | 0              | 45            | 0              | 50            | 10             | 50            | 30             | 2   |
| Fall                 | 35                  | 0              | 45            | 0              | 50            | 10             | 50            | 30             | 2   |
| Winter w/cover crop  | 20                  | 0              | 20            | 10             | 20            | 30             | 20            | 50             | 4   |
| Winter No cover crop | 20                  | 30             | 20            | 50             | 20            | 70             | 20            | 90             | 2   |

|                      | Yield Groups (bu/A) |                |                 |                |                 |                |                 |                | Increase N<br>fertilizer/1000 gal<br>manure rate reducton<br>from rate in table |
|----------------------|---------------------|----------------|-----------------|----------------|-----------------|----------------|-----------------|----------------|---|
|                      | 100-130             |                | 130-160         |                | 160-190         |                | 190-220         |                |   |
|                      | Manure<br>gal/A     | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A |   |
| <b>Liquid Dairy</b>  |                     |                |                 |                |                 |                |                 |                |   |
| Spring Inc. 1 day    | 5000                | 0              | 6000            | 0              | 8000            | 0              | 9000            | 0              | 14  |
| Spring In. 1 week    | 7000                | 0              | 9000            | 0              | 11000           | 0              | 13000           | 0              | 10  |
| Spring Uninc.        | 13000               | 0              | 16000           | 0              | 16000           | 20             | 16000           | 40             | 6   |
| Fall                 | 13000               | 0              | 16000           | 0              | 16000           | 20             | 16000           | 40             | 6   |
| Winter w/cover crop  | 5000                | 15             | 5000            | 35             | 5000            | 55             | 5000            | 75             | 11  |
| Winter No cover crop | 5000                | 40             | 5000            | 60             | 5000            | 80             | 5000            | 100            | 6   |

|                      | Yield Groups (bu/A) |                |                 |                |                 |                |                 |                | Increase N<br>fertilizer/1000 gal<br>manure rate reducton<br>from rate in table |
|----------------------|---------------------|----------------|-----------------|----------------|-----------------|----------------|-----------------|----------------|---|
|                      | 100-130             |                | 130-160         |                | 160-190         |                | 190-220         |                |   |
|                      | Manure<br>gal/A     | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A |   |
| <b>Liquid Swine</b>  |                     |                |                 |                |                 |                |                 |                |   |
| Spring Inc. 1 day    | 3000                | 0              | 4000            | 0              | 5000            | 0              | 6000            | 0              | 22  |
| Spring In. 1 week    | 6000                | 0              | 7000            | 0              | 9000            | 0              | 9000            | 20             | 12  |
| Spring Uninc.        | 9000                | 15             | 9000            | 35             | 9000            | 55             | 9000            | 75             | 6   |
| Fall                 | 9000                | 15             | 9000            | 35             | 9000            | 55             | 9000            | 75             | 6   |
| Winter w/cover crop  | 5000                | 0              | 5000            | 20             | 5000            | 40             | 5000            | 60             | 14  |
| Winter No cover crop | 5000                | 40             | 5000            | 60             | 5000            | 80             | 5000            | 100            | 6   |

|                      | Yield Groups (bu/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reducton<br>from rate in table |
|----------------------|---------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---|
|                      | 100-130             |                | 130-160       |                | 160-190       |                | 190-220       |                |   |
|                      | Manure<br>t/A       | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |   |
| <b>Layer</b>         |                     |                |               |                |               |                |               |                |   |
| Spring Inc. 1 day    | 3                   | 0              | 3             | 0              | 4             | 0              | 4             | 20             | 28  |
| Spring In. 1 week    | 4                   | 0              | 4             | 25             | 4             | 45             | 4             | 65             | 17  |
| Spring Uninc.        | 4                   | 50             | 4             | 70             | 4             | 90             | 4             | 110            | 6   |
| Fall                 | 4                   | 50             | 4             | 70             | 4             | 90             | 4             | 110            | 6   |
| Winter w/cover crop  | 3                   | 15             | 3             | 35             | 3             | 55             | 3             | 75             | 19  |
| Winter No cover crop | 3                   | 55             | 3             | 75             | 3             | 95             | 3             | 115            | 6   |

**Corn Grain After Soybean  
Nitrogen Based**

|                      | Yield Groups (bu/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|---------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 100-130             |                | 130-160       |                | 160-190       |                | 190-220       |                |  |
|                      | Manure<br>t/A       | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Broiler</b>       |                     |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 1                   | 10             | 2             | 0              | 2             | 0              | 2             | 10             | 59   |
| Spring In. 1 week    | 2                   | 0              | 3             | 0              | 3             | 0              | 4             | 0              | 36   |
| Spring Uninc.        | 4                   | 25             | 4             | 45             | 4             | 65             | 4             | 85             | 12   |
| Fall                 | 4                   | 25             | 4             | 45             | 4             | 65             | 4             | 85             | 12   |
| Winter w/cover crop  | 2                   | 0              | 2             | 10             | 3             | 0              | 3             | 10             | 40   |
| Winter No cover crop | 3                   | 35             | 3             | 55             | 3             | 75             | 3             | 95             | 12   |

|                      | Yield Groups (bu/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|---------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 100-130             |                | 130-160       |                | 160-190       |                | 190-220       |                |  |
|                      | Manure<br>t/A       | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Beef Cow/Calf</b> |                     |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 15                  | 0              | 15            | 0              | 20            | 0              | 25            | 0              | 6  |
| Spring In. 1 week    | 20                  | 0              | 25            | 0              | 30            | 0              | 30            | 15             | 4  |
| Spring Uninc.        | 30                  | 0              | 30            | 25             | 30            | 45             | 30            | 65             | 2  |
| Fall                 | 30                  | 0              | 30            | 25             | 30            | 45             | 30            | 65             | 2  |
| Winter w/cover crop  | 15                  | 0              | 20            | 0              | 20            | 20             | 20            | 40             | 4  |
| Winter No cover crop | 20                  | 25             | 20            | 45             | 20            | 65             | 20            | 85             | 2  |

|                      | Yield Groups (bu/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|---------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 100-130             |                | 130-160       |                | 160-190       |                | 190-220       |                |  |
|                      | Manure<br>t/A       | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Beef Steer</b>    |                     |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 10                  | 0              | 15            | 0              | 15            | 0              | 20            | 0              | 7  |
| Spring In. 1 week    | 15                  | 0              | 20            | 0              | 20            | 10             | 25            | 0              | 5  |
| Spring Uninc.        | 25                  | 0              | 30            | 0              | 40            | 0              | 40            | 20             | 3  |
| Fall                 | 25                  | 0              | 30            | 0              | 40            | 0              | 40            | 20             | 3  |
| Winter w/cover crop  | 15                  | 0              | 15            | 0              | 20            | 0              | 20            | 20             | 6  |
| Winter No cover crop | 20                  | 15             | 20            | 35             | 20            | 55             | 20            | 75             | 3  |

|                      | Yield Groups (bu/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|---------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 100-130             |                | 130-160       |                | 160-190       |                | 190-220       |                |  |
|                      | Manure<br>t/A       | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Horse</b>         |                     |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 10                  | 10             | 15            | 0              | 20            | 0              | 20            | 10             | 6  |
| Spring In. 1 week    | 15                  | 0              | 20            | 0              | 25            | 0              | 30            | 0              | 4  |
| Spring Uninc.        | 30                  | 0              | 40            | 0              | 40            | 15             | 40            | 35             | 2  |
| Fall                 | 30                  | 0              | 40            | 0              | 40            | 15             | 40            | 35             | 2  |
| Winter w/cover crop  | 15                  | 0              | 20            | 0              | 20            | 15             | 20            | 35             | 5  |
| Winter No cover crop | 20                  | 20             | 20            | 40             | 20            | 60             | 20            | 80             | 2  |

No more than 9000 gal/A of liquid manure can be applied in a single application.  
Spilt higher rates into multiple applications.

**Corn Silage  
Nitrogen Based**

|                      | Yield Groups (ton/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|----------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 17-21                |                | 21-25         |                | 25-29         |                | 29-33         |                |  |
|                      | Manure<br>t/A        | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Solid Dairy</b>   |                      |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 25                   | 0              | 30            | 10             | 40            | 0              | 45            | 0              | 5  |
| Spring In. 1 week    | 35                   | 0              | 45            | 0              | 50            | 15             | 50            | 45             | 4  |
| Spring Uninc.        | 50                   | 30             | 50            | 60             | 50            | 90             | 50            | 120            | 2  |
| Fall                 | 50                   | 30             | 50            | 60             | 50            | 90             | 50            | 120            | 2  |
| Winter w/cover crop  | 20                   | 50             | 20            | 80             | 20            | 110            | 20            | 140            | 4  |
| Winter No cover crop | 20                   | 90             | 20            | 120            | 20            | 150            | 20            | 180            | 2  |

|                      | Yield Groups (ton/A) |                |                 |                |                 |                |                 |                | Increase N<br>fertilizer/1000 gal<br>manure rate reduction<br>from rate in table |
|----------------------|----------------------|----------------|-----------------|----------------|-----------------|----------------|-----------------|----------------|--|
|                      | 17-21                |                | 21-25           |                | 25-29           |                | 29-33           |                |  |
|                      | Manure<br>gal/A      | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A |  |
| <b>Liquid Dairy</b>  |                      |                |                 |                |                 |                |                 |                |  |
| Spring Inc. 1 day    | 9000                 | 0              | 11000           | 0              | 14000           | 0              | 16000           | 0              | 14   |
| Spring In. 1 week    | 13000                | 0              | 16000           | 0              | 16000           | 35             | 16000           | 65             | 10   |
| Spring Uninc.        | 16000                | 40             | 16000           | 70             | 16000           | 100            | 16000           | 130            | 6  |
| Fall                 | 16000                | 40             | 16000           | 70             | 16000           | 100            | 16000           | 130            | 6  |
| Winter w/cover crop  | 5000                 | 75             | 5000            | 105            | 5000            | 135            | 5000            | 165            | 11   |
| Winter No cover crop | 5000                 | 100            | 5000            | 130            | 5000            | 160            | 5000            | 190            | 6  |

|                      | Yield Groups (ton/A) |                |                 |                |                 |                |                 |                | Increase N<br>fertilizer/1000 gal<br>manure rate reduction<br>from rate in table |
|----------------------|----------------------|----------------|-----------------|----------------|-----------------|----------------|-----------------|----------------|--|
|                      | 17-21                |                | 21-25           |                | 25-29           |                | 29-33           |                |  |
|                      | Manure<br>gal/A      | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A |  |
| <b>Liquid Swine</b>  |                      |                |                 |                |                 |                |                 |                |  |
| Spring Inc. 1 day    | 6000                 | 0              | 7000            | 0              | 9000            | 0              | 9000            | 25             | 22   |
| Spring In. 1 week    | 9000                 | 20             | 9000            | 50             | 9000            | 80             | 9000            | 110            | 12   |
| Spring Uninc.        | 9000                 | 75             | 9000            | 105            | 9000            | 135            | 9000            | 165            | 6  |
| Fall                 | 9000                 | 75             | 9000            | 105            | 9000            | 135            | 9000            | 165            | 6  |
| Winter w/cover crop  | 5000                 | 60             | 5000            | 90             | 5000            | 120            | 5000            | 150            | 14   |
| Winter No cover crop | 5000                 | 100            | 5000            | 130            | 5000            | 160            | 5000            | 190            | 6  |

|                      | Yield Groups (ton/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|----------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 17-21                |                | 21-25         |                | 25-29         |                | 29-33         |                |  |
|                      | Manure<br>t/A        | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Layer</b>         |                      |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 4                    | 20             | 4             | 50             | 4             | 80             | 4             | 110            | 28   |
| Spring In. 1 week    | 4                    | 65             | 4             | 95             | 4             | 125            | 4             | 155            | 17   |
| Spring Uninc.        | 4                    | 110            | 4             | 140            | 4             | 170            | 4             | 200            | 6  |
| Fall                 | 4                    | 110            | 4             | 140            | 4             | 170            | 4             | 200            | 6  |
| Winter w/cover crop  | 3                    | 75             | 3             | 105            | 3             | 135            | 3             | 165            | 19   |
| Winter No cover crop | 3                    | 115            | 3             | 145            | 3             | 175            | 3             | 205            | 6  |

**Corn Silage  
Nitrogen Based**

|                      | Yield Groups (ton/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|----------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 17-21                |                | 21-25         |                | 25-29         |                | 29-33         |                |  |
|                      | Manure<br>t/A        | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Broiler</b>       |                      |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 2                    | 10             | 3             | 0              | 3             | 10             | 4             | 0              | 59   |
| Spring In. 1 week    | 4                    | 0              | 4             | 20             | 4             | 50             | 4             | 80             | 36   |
| Spring Uninc.        | 4                    | 85             | 4             | 115            | 4             | 145            | 4             | 175            | 12   |
| Fall                 | 4                    | 85             | 4             | 115            | 4             | 145            | 4             | 175            | 12   |
| Winter w/cover crop  | 3                    | 10             | 3             | 40             | 3             | 70             | 3             | 100            | 40   |
| Winter No cover crop | 3                    | 95             | 3             | 125            | 3             | 155            | 3             | 185            | 12   |

|                      | Yield Groups (ton/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|----------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 17-21                |                | 21-25         |                | 25-29         |                | 29-33         |                |  |
|                      | Manure<br>t/A        | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Beef Cow/Calf</b> |                      |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 20                   | 0              | 25            | 0              | 30            | 0              | 30            | 55             | 6  |
| Spring In. 1 week    | 30                   | 0              | 30            | 25             | 30            | 55             | 30            | 105            | 4  |
| Spring Uninc.        | 30                   | 45             | 30            | 75             | 30            | 105            | 30            | 155            | 2  |
| Fall                 | 30                   | 45             | 30            | 75             | 30            | 105            | 30            | 155            | 2  |
| Winter w/cover crop  | 20                   | 20             | 20            | 50             | 20            | 80             | 20            | 130            | 4  |
| Winter No cover crop | 20                   | 65             | 20            | 95             | 20            | 125            | 20            | 175            | 2  |

|                      | Yield Groups (ton/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|----------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 17-21                |                | 21-25         |                | 25-29         |                | 29-33         |                |  |
|                      | Manure<br>t/A        | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Beef Steer</b>    |                      |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 15                   | 0              | 20            | 0              | 25            | 0              | 30            | 10             | 7  |
| Spring In. 1 week    | 20                   | 10             | 30            | 0              | 35            | 0              | 40            | 25             | 5  |
| Spring Uninc.        | 40                   | 0              | 40            | 30             | 40            | 60             | 40            | 110            | 3  |
| Fall                 | 40                   | 0              | 40            | 30             | 40            | 60             | 40            | 110            | 3  |
| Winter w/cover crop  | 20                   | 0              | 20            | 30             | 20            | 60             | 20            | 110            | 6  |
| Winter No cover crop | 20                   | 55             | 20            | 85             | 20            | 115            | 20            | 165            | 3  |

|                      | Yield Groups (ton/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|----------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 17-21                |                | 21-25         |                | 25-29         |                | 29-33         |                |  |
|                      | Manure<br>t/A        | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Horse</b>         |                      |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 20                   | 0              | 25            | 0              | 30            | 0              | 35            | 10             | 6  |
| Spring In. 1 week    | 25                   | 0              | 35            | 0              | 40            | 0              | 40            | 50             | 4  |
| Spring Uninc.        | 40                   | 15             | 40            | 45             | 40            | 75             | 40            | 125            | 2  |
| Fall                 | 40                   | 15             | 40            | 45             | 40            | 75             | 40            | 125            | 2  |
| Winter w/cover crop  | 20                   | 15             | 20            | 45             | 20            | 75             | 20            | 125            | 5  |
| Winter No cover crop | 20                   | 60             | 20            | 90             | 20            | 120            | 20            | 170            | 2  |

No more than 9000 gal/A of liquid manure can be applied in a single application.  
Spilt higher rates into multiple applications.

**Corn Silage After Alfalfa  
Nitrogen Based**

|                      | Yield Groups (ton/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|----------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 17-21                |                | 21-25         |                | 25-29         |                | 29-33         |                |  |
|                      | Manure<br>t/A        | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Solid Dairy</b>   |                      |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 15                   | 0              | 20            | 0              | 20            | 10             | 25            | 0              | 5  |
| Spring In. 1 week    | 20                   | 0              | 25            | 0              | 30            | 0              | 35            | 0              | 4  |
| Spring Uninc.        | 35                   | 0              | 45            | 0              | 50            | 10             | 50            | 30             | 2  |
| Fall                 | 35                   | 0              | 45            | 0              | 50            | 10             | 50            | 30             | 2  |
| Winter w/cover crop  | 20                   | 0              | 20            | 10             | 20            | 30             | 20            | 50             | 4  |
| Winter No cover crop | 20                   | 30             | 20            | 50             | 20            | 70             | 20            | 90             | 2  |

|                      | Yield Groups (ton/A) |                |                 |                |                 |                |                 |                | Increase N<br>fertilizer/1000 gal<br>manure rate reduction<br>from rate in table |
|----------------------|----------------------|----------------|-----------------|----------------|-----------------|----------------|-----------------|----------------|--|
|                      | 17-21                |                | 21-25           |                | 25-29           |                | 29-33           |                |  |
|                      | Manure<br>gal/A      | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A |  |
| <b>Liquid Dairy</b>  |                      |                |                 |                |                 |                |                 |                |  |
| Spring Inc. 1 day    | 5000                 | 0              | 6000            | 0              | 8000            | 0              | 9000            | 0              | 14   |
| Spring In. 1 week    | 7000                 | 0              | 9000            | 0              | 11000           | 0              | 13000           | 0              | 10   |
| Spring Uninc.        | 13000                | 0              | 16000           | 0              | 16000           | 20             | 16000           | 40             | 6  |
| Fall                 | 13000                | 0              | 16000           | 0              | 16000           | 20             | 16000           | 40             | 6  |
| Winter w/cover crop  | 5000                 | 15             | 5000            | 35             | 5000            | 55             | 5000            | 75             | 11   |
| Winter No cover crop | 5000                 | 40             | 5000            | 60             | 5000            | 80             | 5000            | 100            | 6  |

|                      | Yield Groups (ton/A) |                |                 |                |                 |                |                 |                | Increase N<br>fertilizer/1000 gal<br>manure rate reduction<br>from rate in table |
|----------------------|----------------------|----------------|-----------------|----------------|-----------------|----------------|-----------------|----------------|--|
|                      | 17-21                |                | 21-25           |                | 25-29           |                | 29-33           |                |  |
|                      | Manure<br>gal/A      | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A |  |
| <b>Liquid Swine</b>  |                      |                |                 |                |                 |                |                 |                |  |
| Spring Inc. 1 day    | 3000                 | 0              | 4000            | 0              | 5000            | 0              | 6000            | 0              | 22   |
| Spring In. 1 week    | 6000                 | 0              | 7000            | 0              | 9000            | 0              | 9000            | 20             | 12   |
| Spring Uninc.        | 9000                 | 15             | 9000            | 35             | 9000            | 55             | 9000            | 75             | 6  |
| Fall                 | 9000                 | 15             | 9000            | 35             | 9000            | 55             | 9000            | 75             | 6  |
| Winter w/cover crop  | 5000                 | 0              | 5000            | 20             | 5000            | 40             | 5000            | 60             | 14   |
| Winter No cover crop | 5000                 | 40             | 5000            | 60             | 5000            | 80             | 5000            | 100            | 6  |

|                      | Yield Groups (ton/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|----------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 17-21                |                | 21-25         |                | 25-29         |                | 29-33         |                |  |
|                      | Manure<br>t/A        | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Layer</b>         |                      |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 3                    | 0              | 3             | 0              | 4             | 0              | 4             | 20             | 28   |
| Spring In. 1 week    | 4                    | 0              | 4             | 25             | 4             | 45             | 4             | 65             | 17   |
| Spring Uninc.        | 4                    | 50             | 4             | 70             | 4             | 90             | 4             | 110            | 6  |
| Fall                 | 4                    | 50             | 4             | 70             | 4             | 90             | 4             | 110            | 6  |
| Winter w/cover crop  | 3                    | 15             | 3             | 35             | 3             | 55             | 3             | 75             | 19   |
| Winter No cover crop | 3                    | 55             | 3             | 75             | 3             | 95             | 3             | 115            | 6  |

**Corn Silage After Alfalfa  
Nitrogen Based**

|                      | Yield Groups (ton/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|----------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 17-21                |                | 21-25         |                | 25-29         |                | 29-33         |                |  |
|                      | Manure<br>t/A        | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Broiler</b>       |                      |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 1                    | 10             | 2             | 0              | 2             | 0              | 2             | 10             | 59   |
| Spring In. 1 week    | 2                    | 0              | 3             | 0              | 3             | 0              | 4             | 0              | 36   |
| Spring Uninc.        | 4                    | 25             | 4             | 45             | 4             | 65             | 4             | 85             | 12   |
| Fall                 | 4                    | 25             | 4             | 45             | 4             | 65             | 4             | 85             | 12   |
| Winter w/cover crop  | 2                    | 0              | 2             | 10             | 3             | 0              | 3             | 10             | 40   |
| Winter No cover crop | 3                    | 35             | 3             | 55             | 3             | 75             | 3             | 95             | 12   |

|                      | Yield Groups (ton/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|----------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 17-21                |                | 21-25         |                | 25-29         |                | 29-33         |                |  |
|                      | Manure<br>t/A        | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Beef Cow/Calf</b> |                      |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 10                   | 0              | 15            | 0              | 15            | 0              | 25            | 0              | 6  |
| Spring In. 1 week    | 15                   | 0              | 20            | 0              | 25            | 0              | 30            | 15             | 4  |
| Spring Uninc.        | 25                   | 0              | 30            | 0              | 30            | 25             | 30            | 65             | 2  |
| Fall                 | 25                   | 0              | 30            | 0              | 30            | 25             | 30            | 65             | 2  |
| Winter w/cover crop  | 10                   | 0              | 15            | 0              | 20            | 0              | 20            | 40             | 4  |
| Winter No cover crop | 20                   | 0              | 20            | 25             | 20            | 45             | 20            | 85             | 2  |

|                      | Yield Groups (ton/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|----------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 17-21                |                | 21-25         |                | 25-29         |                | 29-33         |                |  |
|                      | Manure<br>t/A        | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Beef Steer</b>    |                      |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 5                    | 15             | 10            | 0              | 15            | 0              | 20            | 0              | 7  |
| Spring In. 1 week    | 10                   | 0              | 15            | 0              | 20            | 0              | 25            | 0              | 5  |
| Spring Uninc.        | 20                   | 0              | 25            | 0              | 30            | 0              | 40            | 20             | 3  |
| Fall                 | 20                   | 0              | 25            | 0              | 30            | 0              | 40            | 20             | 3  |
| Winter w/cover crop  | 10                   | 0              | 15            | 0              | 15            | 0              | 20            | 20             | 6  |
| Winter No cover crop | 20                   | 0              | 20            | 15             | 20            | 35             | 20            | 75             | 3  |

|                      | Yield Groups (ton/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|----------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 17-21                |                | 21-25         |                | 25-29         |                | 29-33         |                |  |
|                      | Manure<br>t/A        | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Horse</b>         |                      |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 10                   | 0              | 10            | 10             | 15            | 0              | 20            | 10             | 6  |
| Spring In. 1 week    | 10                   | 0              | 15            | 0              | 20            | 0              | 30            | 0              | 4  |
| Spring Uninc.        | 20                   | 0              | 30            | 0              | 40            | 0              | 40            | 35             | 2  |
| Fall                 | 20                   | 0              | 30            | 0              | 40            | 0              | 40            | 35             | 2  |
| Winter w/cover crop  | 10                   | 0              | 15            | 0              | 20            | 0              | 20            | 35             | 5  |
| Winter No cover crop | 20                   | 0              | 20            | 20             | 20            | 40             | 20            | 80             | 2  |

No more than 9000 gal/A of liquid manure can be applied in a single application.  
Spilt higher rates into multiple applications.

**Corn Silage After Soybeans  
Nitrogen Based**

|                      | Yield Groups (ton/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reducton<br>from rate in table |
|----------------------|----------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---|
|                      | 17-21                |                | 21-25         |                | 25-29         |                | 29-33         |                |   |
|                      | Manure<br>t/A        | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |   |
| <b>Solid Dairy</b>   |                      |                |               |                |               |                |               |                |   |
| Spring Inc. 1 day    | 20                   | 0              | 20            | 10             | 25            | 0              | 30            | 0              | 5   |
| Spring In. 1 week    | 25                   | 0              | 30            | 0              | 35            | 0              | 45            | 0              | 4   |
| Spring Uninc.        | 45                   | 0              | 50            | 10             | 50            | 30             | 50            | 50             | 2   |
| Fall                 | 45                   | 0              | 50            | 10             | 50            | 30             | 50            | 50             | 2   |
| Winter w/cover crop  | 20                   | 10             | 20            | 30             | 20            | 50             | 20            | 70             | 4   |
| Winter No cover crop | 20                   | 50             | 20            | 70             | 20            | 90             | 20            | 110            | 2   |

|                      | Yield Groups (ton/A) |                |                 |                |                 |                |                 |                | Increase N<br>fertilizer/1000 gal<br>manure rate reducton<br>from rate in table |
|----------------------|----------------------|----------------|-----------------|----------------|-----------------|----------------|-----------------|----------------|---|
|                      | 17-21                |                | 21-25           |                | 25-29           |                | 29-33           |                |   |
|                      | Manure<br>gal/A      | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A |   |
| <b>Liquid Dairy</b>  |                      |                |                 |                |                 |                |                 |                |   |
| Spring Inc. 1 day    | 6000                 | 0              | 8000            | 0              | 9000            | 0              | 11000           | 0              | 14  |
| Spring In. 1 week    | 9000                 | 0              | 11000           | 0              | 13000           | 0              | 15000           | 0              | 10  |
| Spring Uninc.        | 16000                | 0              | 16000           | 20             | 16000           | 40             | 16000           | 60             | 6   |
| Fall                 | 16000                | 0              | 16000           | 20             | 16000           | 40             | 16000           | 60             | 6   |
| Winter w/cover crop  | 5000                 | 35             | 5000            | 55             | 5000            | 75             | 5000            | 95             | 11  |
| Winter No cover crop | 5000                 | 60             | 5000            | 80             | 5000            | 100            | 5000            | 120            | 6   |

|                      | Yield Groups (ton/A) |                |                 |                |                 |                |                 |                | Increase N<br>fertilizer/1000 gal<br>manure rate reducton<br>from rate in table |
|----------------------|----------------------|----------------|-----------------|----------------|-----------------|----------------|-----------------|----------------|---|
|                      | 17-21                |                | 21-25           |                | 25-29           |                | 29-33           |                |   |
|                      | Manure<br>gal/A      | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A |   |
| <b>Liquid Swine</b>  |                      |                |                 |                |                 |                |                 |                |   |
| Spring Inc. 1 day    | 4000                 | 0              | 5000            | 0              | 6000            | 0              | 7000            | 0              | 22  |
| Spring In. 1 week    | 7000                 | 0              | 9000            | 0              | 9000            | 20             | 9000            | 40             | 12  |
| Spring Uninc.        | 9000                 | 35             | 9000            | 55             | 9000            | 75             | 9000            | 95             | 6   |
| Fall                 | 9000                 | 35             | 9000            | 55             | 9000            | 75             | 9000            | 95             | 6   |
| Winter w/cover crop  | 5000                 | 20             | 5000            | 40             | 5000            | 60             | 5000            | 80             | 14  |
| Winter No cover crop | 5000                 | 60             | 5000            | 80             | 5000            | 100            | 5000            | 120            | 6   |

|                      | Yield Groups (ton/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reducton<br>from rate in table |
|----------------------|----------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---|
|                      | 17-21                |                | 21-25         |                | 25-29         |                | 29-33         |                |   |
|                      | Manure<br>t/A        | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |   |
| <b>Layer</b>         |                      |                |               |                |               |                |               |                |   |
| Spring Inc. 1 day    | 3                    | 0              | 4             | 0              | 4             | 20             | 4             | 40             | 28  |
| Spring In. 1 week    | 4                    | 25             | 4             | 45             | 4             | 65             | 4             | 85             | 17  |
| Spring Uninc.        | 4                    | 70             | 4             | 90             | 4             | 110            | 4             | 130            | 6   |
| Fall                 | 4                    | 70             | 4             | 90             | 4             | 110            | 4             | 130            | 6   |
| Winter w/cover crop  | 3                    | 35             | 3             | 55             | 3             | 75             | 3             | 95             | 19  |
| Winter No cover crop | 3                    | 75             | 3             | 95             | 3             | 115            | 3             | 135            | 6   |

**Corn Silage After Soybeans  
Nitrogen Based**

|                      | Yield Groups (ton/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reducton<br>from rate in table |
|----------------------|----------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---|
|                      | 17-21                |                | 21-25         |                | 25-29         |                | 29-33         |                |   |
|                      | Manure<br>t/A        | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |   |
| <b>Broiler</b>       |                      |                |               |                |               |                |               |                |   |
| Spring Inc. 1 day    | 2                    | 0              | 2             | 0              | 2             | 10             | 3             | 0              | 59  |
| Spring In. 1 week    | 3                    | 0              | 3             | 0              | 4             | 0              | 4             | 0              | 36  |
| Spring Uninc.        | 4                    | 45             | 4             | 65             | 4             | 85             | 4             | 105            | 12  |
| Fall                 | 4                    | 45             | 4             | 65             | 4             | 85             | 4             | 105            | 12  |
| Winter w/cover crop  | 2                    | 10             | 3             | 0              | 3             | 10             | 3             | 30             | 40  |
| Winter No cover crop | 3                    | 55             | 3             | 75             | 3             | 95             | 3             | 115            | 12  |

|                      | Yield Groups (ton/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reducton<br>from rate in table |
|----------------------|----------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---|
|                      | 17-21                |                | 21-25         |                | 25-29         |                | 29-33         |                |   |
|                      | Manure<br>t/A        | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |   |
| <b>Beef Cow/Calf</b> |                      |                |               |                |               |                |               |                |   |
| Spring Inc. 1 day    | 15                   | 0              | 15            | 0              | 20            | 0              | 25            | 15             | 6   |
| Spring In. 1 week    | 20                   | 0              | 25            | 0              | 30            | 0              | 30            | 35             | 4   |
| Spring Uninc.        | 30                   | 0              | 30            | 25             | 30            | 45             | 30            | 85             | 2   |
| Fall                 | 30                   | 0              | 30            | 25             | 30            | 45             | 30            | 85             | 2   |
| Winter w/cover crop  | 15                   | 0              | 20            | 0              | 20            | 20             | 20            | 60             | 4   |
| Winter No cover crop | 20                   | 25             | 20            | 45             | 20            | 65             | 20            | 105            | 2   |

|                      | Yield Groups (ton/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reducton<br>from rate in table |
|----------------------|----------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---|
|                      | 17-21                |                | 21-25         |                | 25-29         |                | 29-33         |                |   |
|                      | Manure<br>t/A        | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |   |
| <b>Beef Steer</b>    |                      |                |               |                |               |                |               |                |   |
| Spring Inc. 1 day    | 10                   | 0              | 15            | 0              | 15            | 0              | 20            | 10             | 7   |
| Spring In. 1 week    | 15                   | 0              | 20            | 0              | 20            | 10             | 30            | 0              | 5   |
| Spring Uninc.        | 25                   | 0              | 30            | 0              | 40            | 0              | 40            | 40             | 3   |
| Fall                 | 25                   | 0              | 30            | 0              | 40            | 0              | 40            | 40             | 3   |
| Winter w/cover crop  | 15                   | 0              | 15            | 0              | 20            | 0              | 20            | 40             | 6   |
| Winter No cover crop | 20                   | 15             | 20            | 35             | 20            | 55             | 20            | 95             | 3   |

|                      | Yield Groups (ton/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reducton<br>from rate in table |
|----------------------|----------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---|
|                      | 17-21                |                | 21-25         |                | 25-29         |                | 29-33         |                |   |
|                      | Manure<br>t/A        | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |   |
| <b>Horse</b>         |                      |                |               |                |               |                |               |                |   |
| Spring Inc. 1 day    | 10                   | 10             | 15            | 0              | 20            | 0              | 25            | 0              | 6   |
| Spring In. 1 week    | 15                   | 0              | 20            | 0              | 25            | 0              | 35            | 0              | 4   |
| Spring Uninc.        | 30                   | 0              | 40            | 0              | 40            | 15             | 40            | 55             | 2   |
| Fall                 | 30                   | 0              | 40            | 0              | 40            | 15             | 40            | 55             | 2   |
| Winter w/cover crop  | 15                   | 0              | 20            | 0              | 20            | 15             | 20            | 55             | 5   |
| Winter No cover crop | 20                   | 20             | 20            | 40             | 20            | 60             | 20            | 100            | 2   |

No more than 9000 gal/A of liquid manure can be applied in a single application.  
Spilt higher rates into multiple applications.

**Grass Hay  
Nitrogen Based**

|                      | Yield Groups (ton/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reducton<br>from rate in table |
|----------------------|----------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---|
|                      | 3-4                  |                | 4-5           |                | 5-6           |                | 6-7           |                |   |
|                      | Manure<br>t/A        | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |   |
| <b>Solid Dairy</b>   |                      |                |               |                |               |                |               |                |   |
| Spring Inc. 1 day    | 35                   | 0              | 45            | 0              | 50            | 30             | 50            | 80             | 5   |
| Spring In. 1 week    | 50                   | 0              | 50            | 55             | 50            | 105            | 50            | 155            | 4   |
| Spring Uninc.        | 50                   | 80             | 50            | 130            | 50            | 180            | 50            | 230            | 2   |
| Fall                 | 50                   | 80             | 50            | 130            | 50            | 180            | 50            | 230            | 2   |
| Winter w/cover crop  | 20                   | 100            | 20            | 150            | 20            | 200            | 20            | 250            | 4   |
| Winter No cover crop | 20                   | 140            | 20            | 190            | 20            | 240            | 20            | 290            | 2   |

|                      | Yield Groups (ton/A) |                |                 |                |                 |                |                 |                | Increase N<br>fertilizer/1000 gal<br>manure rate reducton<br>from rate in table |
|----------------------|----------------------|----------------|-----------------|----------------|-----------------|----------------|-----------------|----------------|---|
|                      | 3-4                  |                | 4-5             |                | 5-6             |                | 6-7             |                |   |
|                      | Manure<br>gal/A      | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A |   |
| <b>Liquid Dairy</b>  |                      |                |                 |                |                 |                |                 |                |   |
| Spring Inc. 1 day    | 13000                | 0              | 16000           | 0              | 16000           | 55             | 16000           | 105            | 14  |
| Spring In. 1 week    | 16000                | 25             | 16000           | 75             | 16000           | 125            | 16000           | 175            | 10  |
| Spring Uninc.        | 16000                | 90             | 16000           | 140            | 16000           | 190            | 16000           | 240            | 6   |
| Fall                 | 16000                | 90             | 16000           | 140            | 16000           | 190            | 16000           | 240            | 6   |
| Winter w/cover crop  | 5000                 | 125            | 5000            | 175            | 5000            | 225            | 5000            | 275            | 11  |
| Winter No cover crop | 5000                 | 150            | 5000            | 200            | 5000            | 250            | 5000            | 300            | 6   |

|                      | Yield Groups (ton/A) |                |                 |                |                 |                |                 |                | Increase N<br>fertilizer/1000 gal<br>manure rate reducton<br>from rate in table |
|----------------------|----------------------|----------------|-----------------|----------------|-----------------|----------------|-----------------|----------------|---|
|                      | 3-4                  |                | 4-5             |                | 5-6             |                | 6-7             |                |   |
|                      | Manure<br>gal/A      | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A |   |
| <b>Liquid Swine</b>  |                      |                |                 |                |                 |                |                 |                |   |
| Spring Inc. 1 day    | 8000                 | 0              | 9000            | 35             | 9000            | 85             | 9000            | 135            | 22  |
| Spring In. 1 week    | 9000                 | 70             | 9000            | 120            | 9000            | 170            | 9000            | 220            | 12  |
| Spring Uninc.        | 9000                 | 125            | 9000            | 175            | 9000            | 225            | 9000            | 275            | 6   |
| Fall                 | 9000                 | 125            | 9000            | 175            | 9000            | 225            | 9000            | 275            | 6   |
| Winter w/cover crop  | 5000                 | 110            | 5000            | 160            | 5000            | 210            | 5000            | 260            | 14  |
| Winter No cover crop | 5000                 | 150            | 5000            | 200            | 5000            | 250            | 5000            | 300            | 6   |

|                      | Yield Groups (ton/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reducton<br>from rate in table |
|----------------------|----------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---|
|                      | 3-4                  |                | 4-5           |                | 5-6           |                | 6-7           |                |   |
|                      | Manure<br>t/A        | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |   |
| <b>Layer</b>         |                      |                |               |                |               |                |               |                |   |
| Spring Inc. 1 day    | 4                    | 70             | 4             | 120            | 4             | 170            | 4             | 220            | 28  |
| Spring In. 1 week    | 4                    | 115            | 4             | 165            | 4             | 215            | 4             | 265            | 17  |
| Spring Uninc.        | 4                    | 160            | 4             | 210            | 4             | 260            | 4             | 310            | 6   |
| Fall                 | 4                    | 160            | 4             | 210            | 4             | 260            | 4             | 310            | 6   |
| Winter w/cover crop  | 3                    | 125            | 3             | 175            | 3             | 225            | 3             | 275            | 19  |
| Winter No cover crop | 3                    | 165            | 3             | 215            | 3             | 265            | 3             | 315            | 6   |

**Grass Hay  
Nitrogen Based**

|                      | Yield Groups (ton/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|----------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 3-4                  |                | 4-5           |                | 5-6           |                | 6-7           |                |  |
|                      | Manure<br>t/A        | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Broiler</b>       |                      |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 3                    | 0              | 4             | 0              | 4             | 45             | 4             | 95             | 59   |
| Spring In. 1 week    | 4                    | 40             | 4             | 90             | 4             | 140            | 4             | 190            | 36   |
| Spring Uninc.        | 4                    | 135            | 4             | 185            | 4             | 235            | 4             | 285            | 12   |
| Fall                 | 4                    | 135            | 4             | 185            | 4             | 235            | 4             | 285            | 12   |
| Winter w/cover crop  | 3                    | 60             | 3             | 110            | 3             | 160            | 3             | 210            | 40   |
| Winter No cover crop | 3                    | 145            | 3             | 195            | 3             | 245            | 3             | 295            | 12   |

|                      | Yield Groups (ton/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|----------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 3-4                  |                | 4-5           |                | 5-6           |                | 6-7           |                |  |
|                      | Manure<br>t/A        | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Beef Cow/Calf</b> |                      |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 20                   | 0              | 25            | 0              | 30            | 0              | 30            | 165            | 6  |
| Spring In. 1 week    | 30                   | 0              | 30            | 25             | 30            | 55             | 30            | 215            | 4  |
| Spring Uninc.        | 30                   | 45             | 30            | 75             | 30            | 105            | 30            | 265            | 2  |
| Fall                 | 30                   | 45             | 30            | 75             | 30            | 105            | 30            | 265            | 2  |
| Winter w/cover crop  | 20                   | 20             | 20            | 50             | 20            | 80             | 20            | 240            | 4  |
| Winter No cover crop | 20                   | 65             | 20            | 95             | 20            | 125            | 20            | 285            | 2  |

|                      | Yield Groups (ton/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|----------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 3-4                  |                | 4-5           |                | 5-6           |                | 6-7           |                |  |
|                      | Manure<br>t/A        | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Beef Steer</b>    |                      |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 15                   | 0              | 20            | 0              | 25            | 0              | 40            | 50             | 7  |
| Spring In. 1 week    | 20                   | 10             | 30            | 0              | 35            | 0              | 40            | 135            | 5  |
| Spring Uninc.        | 40                   | 0              | 40            | 30             | 40            | 60             | 40            | 220            | 3  |
| Fall                 | 40                   | 0              | 40            | 30             | 40            | 60             | 40            | 220            | 3  |
| Winter w/cover crop  | 20                   | 0              | 20            | 30             | 20            | 60             | 20            | 220            | 6  |
| Winter No cover crop | 20                   | 55             | 20            | 85             | 20            | 115            | 20            | 275            | 3  |

|                      | Yield Groups (ton/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|----------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 3-4                  |                | 4-5           |                | 5-6           |                | 6-7           |                |  |
|                      | Manure<br>t/A        | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Horse</b>         |                      |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 20                   | 0              | 25            | 0              | 30            | 0              | 40            | 90             | 6  |
| Spring In. 1 week    | 25                   | 0              | 35            | 0              | 40            | 0              | 40            | 160            | 4  |
| Spring Uninc.        | 40                   | 15             | 40            | 45             | 40            | 75             | 40            | 235            | 2  |
| Fall                 | 40                   | 15             | 40            | 45             | 40            | 75             | 40            | 235            | 2  |
| Winter w/cover crop  | 20                   | 15             | 20            | 45             | 20            | 75             | 20            | 235            | 5  |
| Winter No cover crop | 20                   | 60             | 20            | 90             | 20            | 120            | 20            | 280            | 2  |

No more than 9000 gal/A of liquid manure can be applied in a single application.  
Spilt higher rates into multiple applications.

**Small Grains  
Nitrogen Based**

|                      | Yield Groups (bu/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reducton<br>from rate in table |
|----------------------|---------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---|
|                      | 60-75               |                | 75-90         |                | 90-105        |                | 105-130       |                |   |
|                      | Manure<br>t/A       | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |   |
| <b>Solid Dairy</b>   |                     |                |               |                |               |                |               |                |   |
| Spring Inc. 1 day    | 5                   | 10             | 10            | 0              | 15            | 0              | 15            | 0              | 5   |
| Spring In. 1 week    | 10                  | 0              | 15            | 0              | 20            | 0              | 25            | 0              | 4   |
| Spring Uninc.        | 20                  | 0              | 25            | 0              | 35            | 0              | 40            | 0              | 2   |
| Fall                 | 20                  | 0              | 25            | 0              | 35            | 0              | 40            | 0              | 2   |
| Winter w/cover crop  | 10                  | 0              | 15            | 0              | 15            | 0              | 20            | 0              | 4   |
| Winter No cover crop | 20                  | 0              | 20            | 10             | 20            | 25             | 20            | 40             | 2   |

|                      | Yield Groups (bu/A) |                |                 |                |                 |                |                 |                | Increase N<br>fertilizer/1000 gal<br>manure rate reducton<br>from rate in table |
|----------------------|---------------------|----------------|-----------------|----------------|-----------------|----------------|-----------------|----------------|---|
|                      | 60-75               |                | 75-90           |                | 90-105          |                | 105-130         |                |   |
|                      | Manure<br>gal/A     | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A |   |
| <b>Liquid Dairy</b>  |                     |                |                 |                |                 |                |                 |                |   |
| Spring Inc. 1 day    | 3000                | 0              | 4000            | 0              | 5000            | 0              | 6000            | 0              | 14  |
| Spring In. 1 week    | 4000                | 0              | 5000            | 0              | 7000            | 0              | 8000            | 0              | 10  |
| Spring Uninc.        | 6000                | 0              | 9000            | 0              | 12000           | 0              | 14000           | 0              | 6   |
| Fall                 | 6000                | 0              | 9000            | 0              | 12000           | 0              | 14000           | 0              | 6   |
| Winter w/cover crop  | 3000                | 0              | 4000            | 0              | 5000            | 0              | 5000            | 25             | 11  |
| Winter No cover crop | 5000                | 0              | 5000            | 20             | 5000            | 35             | 5000            | 50             | 6   |

|                      | Yield Groups (bu/A) |                |                 |                |                 |                |                 |                | Increase N<br>fertilizer/1000 gal<br>manure rate reducton<br>from rate in table |
|----------------------|---------------------|----------------|-----------------|----------------|-----------------|----------------|-----------------|----------------|---|
|                      | 60-75               |                | 75-90           |                | 90-105          |                | 105-130         |                |   |
|                      | Manure<br>gal/A     | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A |   |
| <b>Liquid Swine</b>  |                     |                |                 |                |                 |                |                 |                |   |
| Spring Inc. 1 day    | 2000                | 0              | 2000            | 0              | 3000            | 0              | 4000            | 0              | 22  |
| Spring In. 1 week    | 3000                | 0              | 4000            | 0              | 5000            | 0              | 6000            | 0              | 12  |
| Spring Uninc.        | 6000                | 0              | 8000            | 0              | 9000            | 0              | 9000            | 25             | 6   |
| Fall                 | 6000                | 0              | 8000            | 0              | 9000            | 0              | 9000            | 25             | 6   |
| Winter w/cover crop  | 3000                | 0              | 4000            | 0              | 5000            | 0              | 5000            | 10             | 14  |
| Winter No cover crop | 5000                | 0              | 5000            | 20             | 5000            | 35             | 5000            | 50             | 6   |

|                      | Yield Groups (bu/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reducton<br>from rate in table |
|----------------------|---------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---|
|                      | 60-75               |                | 75-90         |                | 90-105        |                | 105-130       |                |   |
|                      | Manure<br>t/A       | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |   |
| <b>Layer</b>         |                     |                |               |                |               |                |               |                |   |
| Spring Inc. 1 day    | 1                   | 0              | 2             | 0              | 2             | 0              | 3             | 0              | 28  |
| Spring In. 1 week    | 2                   | 0              | 3             | 0              | 4             | 0              | 4             | 15             | 17  |
| Spring Uninc.        | 4                   | 15             | 4             | 30             | 4             | 45             | 4             | 60             | 6   |
| Fall                 | 4                   | 15             | 4             | 30             | 4             | 45             | 4             | 60             | 6   |
| Winter w/cover crop  | 2                   | 0              | 3             | 0              | 3             | 0              | 3             | 25             | 19  |
| Winter No cover crop | 3                   | 20             | 3             | 35             | 3             | 50             | 3             | 65             | 6   |

**Small Grains  
Nitrogen Based**

|                      | Yield Groups (bu/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|---------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 60-75               |                | 75-90         |                | 90-105        |                | 105-130       |                |  |
|                      | Manure<br>t/A       | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Broiler</b>       |                     |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 1                   | 0              | 1             | 0              | 1             | 0              | 1             | 20             | 59   |
| Spring In. 1 week    | 1                   | 0              | 1             | 15             | 2             | 0              | 2             | 0              | 36   |
| Spring Uninc.        | 3                   | 0              | 4             | 0              | 4             | 20             | 4             | 35             | 12   |
| Fall                 | 3                   | 0              | 4             | 0              | 4             | 20             | 4             | 35             | 12   |
| Winter w/cover crop  | 1                   | 0              | 1             | 10             | 2             | 0              | 2             | 0              | 40   |
| Winter No cover crop | 3                   | 0              | 3             | 15             | 3             | 30             | 3             | 45             | 12   |

|                      | Yield Groups (bu/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|---------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 60-75               |                | 75-90         |                | 90-105        |                | 105-130       |                |  |
|                      | Manure<br>t/A       | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Beef Cow/Calf</b> |                     |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 20                  | 0              | 25            | 0              | 30            | 0              | 15            | 0              | 6  |
| Spring In. 1 week    | 30                  | 0              | 30            | 25             | 30            | 55             | 20            | 0              | 4  |
| Spring Uninc.        | 30                  | 45             | 30            | 75             | 30            | 105            | 30            | 15             | 2  |
| Fall                 | 30                  | 45             | 30            | 75             | 30            | 105            | 30            | 15             | 2  |
| Winter w/cover crop  | 20                  | 20             | 20            | 50             | 20            | 80             | 20            | 0              | 4  |
| Winter No cover crop | 20                  | 65             | 20            | 95             | 20            | 125            | 20            | 35             | 2  |

|                      | Yield Groups (bu/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|---------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 60-75               |                | 75-90         |                | 90-105        |                | 105-130       |                |  |
|                      | Manure<br>t/A       | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Beef Steer</b>    |                     |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 15                  | 0              | 20            | 0              | 25            | 0              | 10            | 10             | 7  |
| Spring In. 1 week    | 20                  | 10             | 30            | 0              | 35            | 0              | 15            | 0              | 5  |
| Spring Uninc.        | 40                  | 0              | 40            | 30             | 40            | 60             | 30            | 0              | 3  |
| Fall                 | 40                  | 0              | 40            | 30             | 40            | 60             | 30            | 0              | 3  |
| Winter w/cover crop  | 20                  | 0              | 20            | 30             | 20            | 60             | 15            | 0              | 6  |
| Winter No cover crop | 20                  | 55             | 20            | 85             | 20            | 115            | 20            | 25             | 3  |

|                      | Yield Groups (bu/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|---------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 60-75               |                | 75-90         |                | 90-105        |                | 105-130       |                |  |
|                      | Manure<br>t/A       | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Horse</b>         |                     |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 20                  | 0              | 25            | 0              | 30            | 0              | 15            | 0              | 6  |
| Spring In. 1 week    | 25                  | 0              | 35            | 0              | 40            | 0              | 20            | 0              | 4  |
| Spring Uninc.        | 40                  | 15             | 40            | 45             | 40            | 75             | 35            | 0              | 2  |
| Fall                 | 40                  | 15             | 40            | 45             | 40            | 75             | 35            | 0              | 2  |
| Winter w/cover crop  | 20                  | 15             | 20            | 45             | 20            | 75             | 15            | 0              | 5  |
| Winter No cover crop | 20                  | 60             | 20            | 90             | 20            | 120            | 20            | 30             | 2  |

No more than 9000 gal/A of liquid manure can be applied in a single application.  
Spilt higher rates into multiple applications.

**Corn Grain  
Phosphorus Based**

|                      | Yield Groups (bu/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reducton<br>from rate in table |
|----------------------|---------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---|
|                      | 100-130             |                | 130-160       |                | 160-190       |                | 190-220       |                |   |
|                      | Manure<br>t/A       | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |   |
| <b>Solid Dairy</b>   |                     |                |               |                |               |                |               |                |   |
| Spring Inc. 1 day    | 15                  | 35             | 15            | 65             | 20            | 70             | 20            | 100            | 5   |
| Spring In. 1 week    | 15                  | 60             | 15            | 90             | 20            | 100            | 20            | 130            | 4   |
| Spring Uninc.        | 15                  | 80             | 15            | 110            | 20            | 130            | 20            | 160            | 2   |
| Fall                 | 15                  | 80             | 15            | 110            | 20            | 130            | 20            | 160            | 2   |
| Winter w/cover crop  | 15                  | 50             | 15            | 80             | 20            | 90             | 20            | 120            | 4   |
| Winter No cover crop | 15                  | 80             | 15            | 110            | 20            | 130            | 20            | 160            | 2   |

|                      | Yield Groups (bu/A) |                |                 |                |                 |                |                 |                | Increase N<br>fertilizer/1000 gal<br>manure rate reducton<br>from rate in table |
|----------------------|---------------------|----------------|-----------------|----------------|-----------------|----------------|-----------------|----------------|---|
|                      | 100-130             |                | 130-160         |                | 160-190         |                | 190-220         |                |   |
|                      | Manure<br>gal/A     | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A |   |
| <b>Liquid Dairy</b>  |                     |                |                 |                |                 |                |                 |                |   |
| Spring Inc. 1 day    | 4000                | 55             | 5000            | 70             | 6000            | 85             | 7000            | 100            | 14  |
| Spring In. 1 week    | 4000                | 70             | 5000            | 90             | 6000            | 110            | 7000            | 130            | 10  |
| Spring Uninc.        | 4000                | 90             | 5000            | 110            | 6000            | 135            | 7000            | 160            | 6   |
| Fall                 | 4000                | 90             | 5000            | 110            | 6000            | 135            | 7000            | 160            | 6   |
| Winter w/cover crop  | 4000                | 65             | 5000            | 85             | 5000            | 115            | 5000            | 145            | 11  |
| Winter No cover crop | 4000                | 90             | 5000            | 110            | 5000            | 140            | 5000            | 170            | 6   |

|                      | Yield Groups (bu/A) |                |                 |                |                 |                |                 |                | Increase N<br>fertilizer/1000 gal<br>manure rate reducton<br>from rate in table |
|----------------------|---------------------|----------------|-----------------|----------------|-----------------|----------------|-----------------|----------------|---|
|                      | 100-130             |                | 130-160         |                | 160-190         |                | 190-220         |                |   |
|                      | Manure<br>gal/A     | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A |   |
| <b>Liquid Swine</b>  |                     |                |                 |                |                 |                |                 |                |   |
| Spring Inc. 1 day    | 2000                | 65             | 3000            | 75             | 3000            | 105            | 4000            | 115            | 22  |
| Spring In. 1 week    | 2000                | 85             | 3000            | 105            | 3000            | 135            | 4000            | 150            | 12  |
| Spring Uninc.        | 2000                | 100            | 3000            | 120            | 3000            | 150            | 4000            | 175            | 6   |
| Fall                 | 2000                | 100            | 3000            | 120            | 3000            | 150            | 4000            | 175            | 6   |
| Winter w/cover crop  | 2000                | 80             | 3000            | 100            | 3000            | 130            | 4000            | 145            | 14  |
| Winter No cover crop | 2000                | 100            | 3000            | 120            | 3000            | 150            | 4000            | 175            | 6   |

|                      | Yield Groups (bu/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reducton<br>from rate in table |
|----------------------|---------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---|
|                      | 100-130             |                | 130-160       |                | 160-190       |                | 190-220       |                |   |
|                      | Manure<br>t/A       | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |   |
| <b>Layer</b>         |                     |                |               |                |               |                |               |                |   |
| Spring Inc. 1 day    | 1                   | 80             | 1             | 110            | 1             | 140            | 2             | 145            | 28  |
| Spring In. 1 week    | 1                   | 95             | 1             | 125            | 1             | 155            | 2             | 165            | 17  |
| Spring Uninc.        | 1                   | 105            | 1             | 135            | 1             | 165            | 2             | 190            | 6   |
| Fall                 | 1                   | 105            | 1             | 135            | 1             | 165            | 2             | 190            | 6   |
| Winter w/cover crop  | 1                   | 90             | 1             | 120            | 1             | 150            | 2             | 165            | 19  |
| Winter No cover crop | 1                   | 105            | 1             | 135            | 1             | 165            | 2             | 190            | 6   |

**Corn Grain  
Phosphorus Based**

|                      | Yield Groups (bu/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|---------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 100-130             |                | 130-160       |                | 160-190       |                | 190-220       |                |  |
|                      | Manure<br>t/A       | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Broiler</b>       |                     |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 1                   | 50             | 1             | 80             | 1             | 110            | 1             | 140            | 59   |
| Spring In. 1 week    | 1                   | 75             | 1             | 105            | 1             | 135            | 1             | 165            | 36   |
| Spring Uninc.        | 1                   | 100            | 1             | 130            | 1             | 160            | 1             | 190            | 12   |
| Fall                 | 1                   | 100            | 1             | 130            | 1             | 160            | 1             | 190            | 12   |
| Winter w/cover crop  | 1                   | 70             | 1             | 100            | 1             | 130            | 1             | 160            | 40   |
| Winter No cover crop | 1                   | 100            | 1             | 130            | 1             | 160            | 1             | 190            | 12   |

|                      | Yield Groups (bu/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|---------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 100-130             |                | 130-160       |                | 160-190       |                | 190-220       |                |  |
|                      | Manure<br>t/A       | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Beef Cow/Calf</b> |                     |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 5                   | 85             | 10            | 85             | 10            | 115            | 15            | 120            | 6  |
| Spring In. 1 week    | 5                   | 90             | 10            | 100            | 10            | 130            | 15            | 140            | 4  |
| Spring Uninc.        | 5                   | 100            | 10            | 120            | 10            | 150            | 15            | 165            | 2  |
| Fall                 | 5                   | 100            | 10            | 120            | 10            | 150            | 15            | 165            | 2  |
| Winter w/cover crop  | 5                   | 90             | 10            | 95             | 10            | 125            | 15            | 135            | 4  |
| Winter No cover crop | 5                   | 100            | 10            | 120            | 10            | 150            | 15            | 165            | 2  |

|                      | Yield Groups (bu/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|---------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 100-130             |                | 130-160       |                | 160-190       |                | 190-220       |                |  |
|                      | Manure<br>t/A       | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Beef Steer</b>    |                     |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 15                  | 0              | 20            | 0              | 25            | 0              | 20            | 60             | 7  |
| Spring In. 1 week    | 20                  | 10             | 30            | 0              | 35            | 0              | 20            | 100            | 5  |
| Spring Uninc.        | 40                  | 0              | 40            | 30             | 40            | 60             | 20            | 145            | 3  |
| Fall                 | 40                  | 0              | 40            | 30             | 40            | 60             | 20            | 145            | 3  |
| Winter w/cover crop  | 20                  | 0              | 20            | 30             | 20            | 60             | 20            | 90             | 6  |
| Winter No cover crop | 20                  | 55             | 20            | 85             | 20            | 115            | 20            | 145            | 3  |

|                      | Yield Groups (bu/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|---------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 100-130             |                | 130-160       |                | 160-190       |                | 190-220       |                |  |
|                      | Manure<br>t/A       | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Horse</b>         |                     |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 10                  | 50             | 15            | 50             | 15            | 80             | 20            | 80             | 6  |
| Spring In. 1 week    | 10                  | 70             | 15            | 75             | 15            | 105            | 20            | 115            | 4  |
| Spring Uninc.        | 10                  | 85             | 15            | 105            | 15            | 135            | 20            | 150            | 2  |
| Fall                 | 10                  | 85             | 15            | 105            | 15            | 135            | 20            | 150            | 2  |
| Winter w/cover crop  | 10                  | 60             | 15            | 70             | 15            | 100            | 20            | 105            | 5  |
| Winter No cover crop | 10                  | 85             | 15            | 105            | 15            | 135            | 20            | 150            | 2  |

No more than 9000 gal/A of liquid manure can be applied in a single application.  
Split higher rates into multiple applications.

**Corn Grain After Alfalfa  
Phosphorus Based**

|                      | Yield Groups (bu/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|---------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 100-130             |                | 130-160       |                | 160-190       |                | 190-220       |                |  |
|                      | Manure<br>t/A       | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Solid Dairy</b>   |                     |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 10                  | 0              | 15            | 0              | 20            | 0              | 20            | 10             | 5  |
| Spring In. 1 week    | 15                  | 0              | 15            | 20             | 20            | 20             | 20            | 40             | 4  |
| Spring Uninc.        | 15                  | 20             | 15            | 40             | 20            | 50             | 20            | 70             | 2  |
| Fall                 | 15                  | 20             | 15            | 40             | 20            | 50             | 20            | 70             | 2  |
| Winter w/cover crop  | 15                  | 0              | 15            | 10             | 20            | 10             | 20            | 30             | 4  |
| Winter No cover crop | 15                  | 20             | 15            | 40             | 20            | 50             | 20            | 70             | 2  |

|                      | Yield Groups (bu/A) |                |                 |                |                 |                |                 |                | Increase N<br>fertilizer/1000 gal<br>manure rate reduction<br>from rate in table |
|----------------------|---------------------|----------------|-----------------|----------------|-----------------|----------------|-----------------|----------------|--|
|                      | 100-130             |                | 130-160         |                | 160-190         |                | 190-220         |                |  |
|                      | Manure<br>gal/A     | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A |  |
| <b>Liquid Dairy</b>  |                     |                |                 |                |                 |                |                 |                |  |
| Spring Inc. 1 day    | 4000                | 0              | 5000            | 0              | 6000            | 0              | 7000            | 10             | 14   |
| Spring In. 1 week    | 4000                | 10             | 5000            | 20             | 6000            | 30             | 7000            | 40             | 10   |
| Spring Uninc.        | 4000                | 30             | 5000            | 40             | 6000            | 55             | 7000            | 70             | 6  |
| Fall                 | 4000                | 30             | 5000            | 40             | 6000            | 55             | 7000            | 70             | 6  |
| Winter w/cover crop  | 4000                | 0              | 5000            | 15             | 5000            | 35             | 5000            | 55             | 11   |
| Winter No cover crop | 4000                | 30             | 5000            | 40             | 5000            | 60             | 5000            | 80             | 6  |

|                      | Yield Groups (bu/A) |                |                 |                |                 |                |                 |                | Increase N<br>fertilizer/1000 gal<br>manure rate reduction<br>from rate in table |
|----------------------|---------------------|----------------|-----------------|----------------|-----------------|----------------|-----------------|----------------|--|
|                      | 100-130             |                | 130-160         |                | 160-190         |                | 190-220         |                |  |
|                      | Manure<br>gal/A     | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A |  |
| <b>Liquid Swine</b>  |                     |                |                 |                |                 |                |                 |                |  |
| Spring Inc. 1 day    | 2000                | 0              | 3000            | 0              | 3000            | 25             | 4000            | 25             | 22   |
| Spring In. 1 week    | 2000                | 25             | 3000            | 35             | 3000            | 55             | 4000            | 60             | 12   |
| Spring Uninc.        | 2000                | 40             | 3000            | 50             | 3000            | 70             | 4000            | 85             | 6  |
| Fall                 | 2000                | 40             | 3000            | 50             | 3000            | 70             | 4000            | 85             | 6  |
| Winter w/cover crop  | 2000                | 20             | 3000            | 30             | 3000            | 50             | 4000            | 55             | 14   |
| Winter No cover crop | 2000                | 40             | 3000            | 50             | 3000            | 70             | 4000            | 85             | 6  |

|                      | Yield Groups (bu/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|---------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 100-130             |                | 130-160       |                | 160-190       |                | 190-220       |                |  |
|                      | Manure<br>t/A       | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Layer</b>         |                     |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 1                   | 20             | 1             | 40             | 1             | 60             | 2             | 55             | 28   |
| Spring In. 1 week    | 1                   | 35             | 1             | 55             | 1             | 75             | 2             | 75             | 17   |
| Spring Uninc.        | 1                   | 45             | 1             | 65             | 1             | 85             | 2             | 100            | 6  |
| Fall                 | 1                   | 45             | 1             | 65             | 1             | 85             | 2             | 100            | 6  |
| Winter w/cover crop  | 1                   | 30             | 1             | 50             | 1             | 70             | 2             | 75             | 19   |
| Winter No cover crop | 1                   | 45             | 1             | 65             | 1             | 85             | 2             | 100            | 6  |

**Corn Grain After Alfalfa  
Phosphorus Based**

|                      | Yield Groups (bu/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|---------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 100-130             |                | 130-160       |                | 160-190       |                | 190-220       |                |  |
|                      | Manure<br>t/A       | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Broiler</b>       |                     |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 1                   | 0              | 1             | 10             | 1             | 30             | 1             | 50             | 59   |
| Spring In. 1 week    | 1                   | 15             | 1             | 35             | 1             | 55             | 1             | 75             | 36   |
| Spring Uninc.        | 1                   | 40             | 1             | 60             | 1             | 80             | 1             | 100            | 12   |
| Fall                 | 1                   | 40             | 1             | 60             | 1             | 80             | 1             | 100            | 12   |
| Winter w/cover crop  | 1                   | 10             | 1             | 30             | 1             | 50             | 1             | 70             | 40   |
| Winter No cover crop | 1                   | 40             | 1             | 60             | 1             | 80             | 1             | 100            | 12   |

|                      | Yield Groups (bu/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|---------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 100-130             |                | 130-160       |                | 160-190       |                | 190-220       |                |  |
|                      | Manure<br>t/A       | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Beef Cow/Calf</b> |                     |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 5                   | 25             | 10            | 15             | 10            | 35             | 15            | 30             | 6  |
| Spring In. 1 week    | 5                   | 30             | 10            | 30             | 10            | 50             | 15            | 50             | 4  |
| Spring Uninc.        | 5                   | 40             | 10            | 50             | 10            | 70             | 15            | 75             | 2  |
| Fall                 | 5                   | 40             | 10            | 50             | 10            | 70             | 15            | 75             | 2  |
| Winter w/cover crop  | 5                   | 30             | 10            | 25             | 10            | 45             | 15            | 45             | 4  |
| Winter No cover crop | 5                   | 40             | 10            | 50             | 10            | 70             | 15            | 75             | 2  |

|                      | Yield Groups (bu/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|---------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 100-130             |                | 130-160       |                | 160-190       |                | 190-220       |                |  |
|                      | Manure<br>t/A       | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Beef Steer</b>    |                     |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 5                   | 15             | 10            | 0              | 15            | 0              | 15            | 0              | 7  |
| Spring In. 1 week    | 10                  | 0              | 15            | 0              | 20            | 0              | 20            | 10             | 5  |
| Spring Uninc.        | 20                  | 0              | 25            | 0              | 30            | 0              | 20            | 55             | 3  |
| Fall                 | 20                  | 0              | 25            | 0              | 30            | 0              | 20            | 55             | 3  |
| Winter w/cover crop  | 10                  | 0              | 15            | 0              | 15            | 0              | 20            | 0              | 6  |
| Winter No cover crop | 20                  | 0              | 20            | 15             | 20            | 35             | 20            | 55             | 3  |

|                      | Yield Groups (bu/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|---------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 100-130             |                | 130-160       |                | 160-190       |                | 190-220       |                |  |
|                      | Manure<br>t/A       | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Horse</b>         |                     |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 10                  | 0              | 10            | 10             | 15            | 0              | 20            | 0              | 6  |
| Spring In. 1 week    | 10                  | 0              | 15            | 0              | 15            | 25             | 20            | 25             | 4  |
| Spring Uninc.        | 10                  | 25             | 15            | 35             | 15            | 55             | 20            | 60             | 2  |
| Fall                 | 10                  | 25             | 15            | 35             | 15            | 55             | 20            | 60             | 2  |
| Winter w/cover crop  | 10                  | 0              | 15            | 0              | 15            | 20             | 20            | 15             | 5  |
| Winter No cover crop | 10                  | 25             | 15            | 35             | 15            | 55             | 20            | 60             | 2  |

No more than 9000 gal/A of liquid manure can be applied in a single application.  
Spilt higher rates into multiple applications.

**Corn Grain After Soybean  
Phosphorus Based**

|                      | Yield Groups (bu/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|---------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 100-130             |                | 130-160       |                | 160-190       |                | 190-220       |                |  |
|                      | Manure<br>t/A       | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Solid Dairy</b>   |                     |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 15                  | 0              | 15            | 15             | 20            | 10             | 20            | 30             | 5  |
| Spring In. 1 week    | 15                  | 20             | 15            | 40             | 20            | 40             | 20            | 60             | 4  |
| Spring Uninc.        | 15                  | 40             | 15            | 60             | 20            | 70             | 20            | 90             | 2  |
| Fall                 | 15                  | 40             | 15            | 60             | 20            | 70             | 20            | 90             | 2  |
| Winter w/cover crop  | 15                  | 10             | 15            | 30             | 20            | 30             | 20            | 50             | 4  |
| Winter No cover crop | 15                  | 40             | 15            | 60             | 20            | 70             | 20            | 90             | 2  |

|                      | Yield Groups (bu/A) |                |                 |                |                 |                |                 |                | Increase N<br>fertilizer/1000 gal<br>manure rate reduction<br>from rate in table |
|----------------------|---------------------|----------------|-----------------|----------------|-----------------|----------------|-----------------|----------------|--|
|                      | 100-130             |                | 130-160         |                | 160-190         |                | 190-220         |                |  |
|                      | Manure<br>gal/A     | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A |  |
| <b>Liquid Dairy</b>  |                     |                |                 |                |                 |                |                 |                |  |
| Spring Inc. 1 day    | 4000                | 15             | 5000            | 20             | 6000            | 25             | 7000            | 30             | 14   |
| Spring In. 1 week    | 4000                | 30             | 5000            | 40             | 6000            | 50             | 7000            | 60             | 10   |
| Spring Uninc.        | 4000                | 50             | 5000            | 60             | 6000            | 75             | 7000            | 90             | 6  |
| Fall                 | 4000                | 50             | 5000            | 60             | 6000            | 75             | 7000            | 90             | 6  |
| Winter w/cover crop  | 4000                | 25             | 5000            | 35             | 5000            | 55             | 5000            | 75             | 11   |
| Winter No cover crop | 4000                | 50             | 5000            | 60             | 5000            | 80             | 5000            | 100            | 6  |

|                      | Yield Groups (bu/A) |                |                 |                |                 |                |                 |                | Increase N<br>fertilizer/1000 gal<br>manure rate reduction<br>from rate in table |
|----------------------|---------------------|----------------|-----------------|----------------|-----------------|----------------|-----------------|----------------|--|
|                      | 100-130             |                | 130-160         |                | 160-190         |                | 190-220         |                |  |
|                      | Manure<br>gal/A     | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A |  |
| <b>Liquid Swine</b>  |                     |                |                 |                |                 |                |                 |                |  |
| Spring Inc. 1 day    | 2000                | 25             | 3000            | 25             | 3000            | 45             | 4000            | 45             | 22   |
| Spring In. 1 week    | 2000                | 45             | 3000            | 55             | 3000            | 75             | 4000            | 80             | 12   |
| Spring Uninc.        | 2000                | 60             | 3000            | 70             | 3000            | 90             | 4000            | 105            | 6  |
| Fall                 | 2000                | 60             | 3000            | 70             | 3000            | 90             | 4000            | 105            | 6  |
| Winter w/cover crop  | 2000                | 40             | 3000            | 50             | 3000            | 70             | 4000            | 75             | 14   |
| Winter No cover crop | 2000                | 60             | 3000            | 70             | 3000            | 90             | 4000            | 105            | 6  |

|                      | Yield Groups (bu/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|---------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 100-130             |                | 130-160       |                | 160-190       |                | 190-220       |                |  |
|                      | Manure<br>t/A       | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Layer</b>         |                     |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 1                   | 40             | 1             | 60             | 1             | 80             | 2             | 75             | 28   |
| Spring In. 1 week    | 1                   | 55             | 1             | 75             | 1             | 95             | 2             | 95             | 17   |
| Spring Uninc.        | 1                   | 65             | 1             | 85             | 1             | 105            | 2             | 120            | 6  |
| Fall                 | 1                   | 65             | 1             | 85             | 1             | 105            | 2             | 120            | 6  |
| Winter w/cover crop  | 1                   | 50             | 1             | 70             | 1             | 90             | 2             | 95             | 19   |
| Winter No cover crop | 1                   | 65             | 1             | 85             | 1             | 105            | 2             | 120            | 6  |

**Corn Grain After Soybean  
Phosphorus Based**

|                      | Yield Groups (bu/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|---------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 100-130             |                | 130-160       |                | 160-190       |                | 190-220       |                |  |
|                      | Manure<br>t/A       | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Broiler</b>       |                     |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 1                   | 10             | 1             | 30             | 1             | 50             | 1             | 70             | 59   |
| Spring In. 1 week    | 1                   | 35             | 1             | 55             | 1             | 75             | 1             | 95             | 36   |
| Spring Uninc.        | 1                   | 60             | 1             | 80             | 1             | 100            | 1             | 120            | 12   |
| Fall                 | 1                   | 60             | 1             | 80             | 1             | 100            | 1             | 120            | 12   |
| Winter w/cover crop  | 1                   | 30             | 1             | 50             | 1             | 70             | 1             | 90             | 40   |
| Winter No cover crop | 1                   | 60             | 1             | 80             | 1             | 100            | 1             | 120            | 12   |

|                      | Yield Groups (bu/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|---------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 100-130             |                | 130-160       |                | 160-190       |                | 190-220       |                |  |
|                      | Manure<br>t/A       | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Beef Cow/Calf</b> |                     |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 5                   | 45             | 10            | 35             | 10            | 55             | 15            | 50             | 6  |
| Spring In. 1 week    | 5                   | 50             | 10            | 50             | 10            | 70             | 15            | 70             | 4  |
| Spring Uninc.        | 5                   | 60             | 10            | 70             | 10            | 90             | 15            | 95             | 2  |
| Fall                 | 5                   | 60             | 10            | 70             | 10            | 90             | 15            | 95             | 2  |
| Winter w/cover crop  | 5                   | 50             | 10            | 45             | 10            | 65             | 15            | 65             | 4  |
| Winter No cover crop | 5                   | 60             | 10            | 70             | 10            | 90             | 15            | 95             | 2  |

|                      | Yield Groups (bu/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|---------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 100-130             |                | 130-160       |                | 160-190       |                | 190-220       |                |  |
|                      | Manure<br>t/A       | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Beef Steer</b>    |                     |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 10                  | 0              | 15            | 0              | 15            | 0              | 20            | 0              | 7  |
| Spring In. 1 week    | 15                  | 0              | 20            | 0              | 20            | 10             | 20            | 30             | 5  |
| Spring Uninc.        | 25                  | 0              | 30            | 0              | 40            | 0              | 20            | 75             | 3  |
| Fall                 | 25                  | 0              | 30            | 0              | 40            | 0              | 20            | 75             | 3  |
| Winter w/cover crop  | 15                  | 0              | 15            | 0              | 20            | 0              | 20            | 20             | 6  |
| Winter No cover crop | 20                  | 15             | 20            | 35             | 20            | 55             | 20            | 75             | 3  |

|                      | Yield Groups (bu/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|---------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 100-130             |                | 130-160       |                | 160-190       |                | 190-220       |                |  |
|                      | Manure<br>t/A       | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Horse</b>         |                     |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 10                  | 10             | 15            | 0              | 15            | 20             | 20            | 10             | 6  |
| Spring In. 1 week    | 10                  | 30             | 15            | 25             | 15            | 45             | 20            | 45             | 4  |
| Spring Uninc.        | 10                  | 45             | 15            | 55             | 15            | 75             | 20            | 80             | 2  |
| Fall                 | 10                  | 45             | 15            | 55             | 15            | 75             | 20            | 80             | 2  |
| Winter w/cover crop  | 10                  | 20             | 15            | 20             | 15            | 40             | 20            | 35             | 5  |
| Winter No cover crop | 10                  | 45             | 15            | 55             | 15            | 75             | 20            | 80             | 2  |

No more than 9000 gal/A of liquid manure can be applied in a single application.  
Spilt higher rates into multiple applications.

**Corn Silage  
Phosphorus Based**

|                      | Yield Groups (ton/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reducton<br>from rate in table |
|----------------------|----------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---|
|                      | 17-21                |                | 21-25         |                | 25-29         |                | 29-33         |                |   |
|                      | Manure<br>t/A        | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |   |
| <b>Solid Dairy</b>   |                      |                |               |                |               |                |               |                |   |
| Spring Inc. 1 day    | 25                   | 0              | 30            | 10             | 35            | 15             | 40            | 20             | 5   |
| Spring In. 1 week    | 25                   | 45             | 30            | 55             | 35            | 70             | 40            | 80             | 4   |
| Spring Uninc.        | 25                   | 80             | 30            | 100            | 35            | 120            | 40            | 140            | 2   |
| Fall                 | 25                   | 80             | 30            | 100            | 35            | 120            | 40            | 140            | 2   |
| Winter w/cover crop  | 20                   | 50             | 20            | 80             | 20            | 110            | 20            | 140            | 4   |
| Winter No cover crop | 20                   | 90             | 20            | 120            | 20            | 150            | 20            | 180            | 2   |

|                      | Yield Groups (ton/A) |                |                 |                |                 |                |                 |                | Increase N<br>fertilizer/1000 gal<br>manure rate reducton<br>from rate in table |
|----------------------|----------------------|----------------|-----------------|----------------|-----------------|----------------|-----------------|----------------|---|
|                      | 17-21                |                | 21-25           |                | 25-29           |                | 29-33           |                |   |
|                      | Manure<br>gal/A      | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A |   |
| <b>Liquid Dairy</b>  |                      |                |                 |                |                 |                |                 |                |   |
| Spring Inc. 1 day    | 8000                 | 20             | 10000           | 20             | 11000           | 35             | 13000           | 40             | 14  |
| Spring In. 1 week    | 8000                 | 50             | 10000           | 60             | 11000           | 80             | 13000           | 95             | 10  |
| Spring Uninc.        | 8000                 | 85             | 10000           | 105            | 11000           | 130            | 13000           | 145            | 6   |
| Fall                 | 8000                 | 85             | 10000           | 105            | 11000           | 130            | 13000           | 145            | 6   |
| Winter w/cover crop  | 5000                 | 75             | 5000            | 105            | 5000            | 135            | 5000            | 165            | 11  |
| Winter No cover crop | 5000                 | 100            | 5000            | 130            | 5000            | 160            | 5000            | 190            | 6   |

|                      | Yield Groups (ton/A) |                |                 |                |                 |                |                 |                | Increase N<br>fertilizer/1000 gal<br>manure rate reducton<br>from rate in table |
|----------------------|----------------------|----------------|-----------------|----------------|-----------------|----------------|-----------------|----------------|---|
|                      | 17-21                |                | 21-25           |                | 25-29           |                | 29-33           |                |   |
|                      | Manure<br>gal/A      | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A |   |
| <b>Liquid Swine</b>  |                      |                |                 |                |                 |                |                 |                |   |
| Spring Inc. 1 day    | 4000                 | 45             | 5000            | 50             | 6000            | 60             | 7000            | 70             | 22  |
| Spring In. 1 week    | 4000                 | 80             | 5000            | 100            | 6000            | 115            | 7000            | 135            | 12  |
| Spring Uninc.        | 4000                 | 105            | 5000            | 130            | 6000            | 155            | 7000            | 175            | 6   |
| Fall                 | 4000                 | 105            | 5000            | 130            | 6000            | 155            | 7000            | 175            | 6   |
| Winter w/cover crop  | 4000                 | 75             | 5000            | 90             | 5000            | 120            | 5000            | 150            | 14  |
| Winter No cover crop | 4000                 | 105            | 5000            | 130            | 5000            | 160            | 5000            | 190            | 6   |

|                      | Yield Groups (ton/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reducton<br>from rate in table |
|----------------------|----------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---|
|                      | 17-21                |                | 21-25         |                | 25-29         |                | 29-33         |                |   |
|                      | Manure<br>t/A        | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |   |
| <b>Layer</b>         |                      |                |               |                |               |                |               |                |   |
| Spring Inc. 1 day    | 2                    | 75             | 2             | 105            | 3             | 105            | 3             | 135            | 28  |
| Spring In. 1 week    | 2                    | 95             | 2             | 125            | 3             | 140            | 3             | 170            | 17  |
| Spring Uninc.        | 2                    | 120            | 2             | 150            | 3             | 175            | 3             | 205            | 6   |
| Fall                 | 2                    | 120            | 2             | 150            | 3             | 175            | 3             | 205            | 6   |
| Winter w/cover crop  | 2                    | 95             | 2             | 125            | 3             | 135            | 3             | 165            | 19  |
| Winter No cover crop | 2                    | 120            | 2             | 150            | 3             | 175            | 3             | 205            | 6   |

**Corn Silage  
Phosphorus Based**

|                      | Yield Groups (ton/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|----------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 17-21                |                | 21-25         |                | 25-29         |                | 29-33         |                |  |
|                      | Manure<br>t/A        | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Broiler</b>       |                      |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 2                    | 10             | 2             | 40             | 2             | 70             | 3             | 40             | 59   |
| Spring In. 1 week    | 2                    | 60             | 2             | 90             | 2             | 120            | 3             | 115            | 36   |
| Spring Uninc.        | 2                    | 105            | 2             | 135            | 2             | 165            | 3             | 185            | 12   |
| Fall                 | 2                    | 105            | 2             | 135            | 2             | 165            | 3             | 185            | 12   |
| Winter w/cover crop  | 2                    | 50             | 2             | 80             | 2             | 110            | 3             | 100            | 40   |
| Winter No cover crop | 2                    | 105            | 2             | 135            | 2             | 165            | 3             | 185            | 12   |

|                      | Yield Groups (ton/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|----------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 17-21                |                | 21-25         |                | 25-29         |                | 29-33         |                |  |
|                      | Manure<br>t/A        | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Beef Cow/Calf</b> |                      |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 15                   | 30             | 20            | 30             | 20            | 60             | 25            | 85             | 6  |
| Spring In. 1 week    | 15                   | 50             | 20            | 65             | 20            | 95             | 25            | 125            | 4  |
| Spring Uninc.        | 15                   | 75             | 20            | 95             | 20            | 125            | 25            | 165            | 2  |
| Fall                 | 15                   | 75             | 20            | 95             | 20            | 125            | 25            | 165            | 2  |
| Winter w/cover crop  | 15                   | 45             | 20            | 50             | 20            | 80             | 20            | 130            | 4  |
| Winter No cover crop | 15                   | 75             | 20            | 95             | 20            | 125            | 20            | 175            | 2  |

|                      | Yield Groups (ton/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|----------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 17-21                |                | 21-25         |                | 25-29         |                | 29-33         |                |  |
|                      | Manure<br>t/A        | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Beef Steer</b>    |                      |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 15                   | 0              | 20            | 0              | 25            | 0              | 30            | 10             | 7  |
| Spring In. 1 week    | 20                   | 10             | 30            | 0              | 35            | 0              | 35            | 50             | 5  |
| Spring Uninc.        | 40                   | 0              | 40            | 30             | 40            | 60             | 35            | 120            | 3  |
| Fall                 | 40                   | 0              | 40            | 30             | 40            | 60             | 35            | 120            | 3  |
| Winter w/cover crop  | 20                   | 0              | 20            | 30             | 20            | 60             | 20            | 110            | 6  |
| Winter No cover crop | 20                   | 55             | 20            | 85             | 20            | 115            | 20            | 165            | 3  |

|                      | Yield Groups (ton/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|----------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 17-21                |                | 21-25         |                | 25-29         |                | 29-33         |                |  |
|                      | Manure<br>t/A        | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Horse</b>         |                      |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 20                   | 0              | 25            | 0              | 30            | 0              | 35            | 10             | 6  |
| Spring In. 1 week    | 20                   | 25             | 25            | 35             | 30            | 45             | 35            | 75             | 4  |
| Spring Uninc.        | 20                   | 60             | 25            | 80             | 30            | 100            | 35            | 135            | 2  |
| Fall                 | 20                   | 60             | 25            | 80             | 30            | 100            | 35            | 135            | 2  |
| Winter w/cover crop  | 20                   | 15             | 20            | 45             | 20            | 75             | 20            | 125            | 5  |
| Winter No cover crop | 20                   | 60             | 20            | 90             | 20            | 120            | 20            | 170            | 2  |

No more than 9000 gal/A of liquid manure can be applied in a single application.  
Spilt higher rates into multiple applications.

**Corn Silage After Alfalfa  
Phosphorus Based**

|                      | Yield Groups (ton/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|----------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 17-21                |                | 21-25         |                | 25-29         |                | 29-33         |                |  |
|                      | Manure<br>t/A        | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Solid Dairy</b>   |                      |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 15                   | 0              | 20            | 0              | 20            | 10             | 25            | 0              | 5  |
| Spring In. 1 week    | 20                   | 0              | 25            | 0              | 30            | 0              | 35            | 0              | 4  |
| Spring Uninc.        | 25                   | 20             | 30            | 30             | 35            | 40             | 40            | 50             | 2  |
| Fall                 | 25                   | 20             | 30            | 30             | 35            | 40             | 40            | 50             | 2  |
| Winter w/cover crop  | 20                   | 0              | 20            | 10             | 20            | 30             | 20            | 50             | 4  |
| Winter No cover crop | 20                   | 30             | 20            | 50             | 20            | 70             | 20            | 90             | 2  |

|                      | Yield Groups (ton/A) |                |                 |                |                 |                |                 |                | Increase N<br>fertilizer/1000 gal<br>manure rate reduction<br>from rate in table |
|----------------------|----------------------|----------------|-----------------|----------------|-----------------|----------------|-----------------|----------------|--|
|                      | 17-21                |                | 21-25           |                | 25-29           |                | 29-33           |                |  |
|                      | Manure<br>gal/A      | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A |  |
| <b>Liquid Dairy</b>  |                      |                |                 |                |                 |                |                 |                |  |
| Spring Inc. 1 day    | 5000                 | 0              | 6000            | 0              | 8000            | 0              | 9000            | 0              | 14   |
| Spring In. 1 week    | 7000                 | 0              | 9000            | 0              | 11000           | 0              | 13000           | 0              | 10   |
| Spring Uninc.        | 8000                 | 25             | 10000           | 35             | 11000           | 50             | 13000           | 55             | 6  |
| Fall                 | 8000                 | 25             | 10000           | 35             | 11000           | 50             | 13000           | 55             | 6  |
| Winter w/cover crop  | 5000                 | 15             | 5000            | 35             | 5000            | 55             | 5000            | 75             | 11   |
| Winter No cover crop | 5000                 | 40             | 5000            | 60             | 5000            | 80             | 5000            | 100            | 6  |

|                      | Yield Groups (ton/A) |                |                 |                |                 |                |                 |                | Increase N<br>fertilizer/1000 gal<br>manure rate reduction<br>from rate in table |
|----------------------|----------------------|----------------|-----------------|----------------|-----------------|----------------|-----------------|----------------|--|
|                      | 17-21                |                | 21-25           |                | 25-29           |                | 29-33           |                |  |
|                      | Manure<br>gal/A      | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A |  |
| <b>Liquid Swine</b>  |                      |                |                 |                |                 |                |                 |                |  |
| Spring Inc. 1 day    | 3000                 | 0              | 4000            | 0              | 5000            | 0              | 6000            | 0              | 22   |
| Spring In. 1 week    | 4000                 | 20             | 5000            | 30             | 6000            | 35             | 7000            | 45             | 12   |
| Spring Uninc.        | 4000                 | 45             | 5000            | 60             | 6000            | 75             | 7000            | 85             | 6  |
| Fall                 | 4000                 | 45             | 5000            | 60             | 6000            | 75             | 7000            | 85             | 6  |
| Winter w/cover crop  | 4000                 | 15             | 5000            | 20             | 5000            | 40             | 5000            | 60             | 14   |
| Winter No cover crop | 4000                 | 45             | 5000            | 60             | 5000            | 80             | 5000            | 100            | 6  |

|                      | Yield Groups (ton/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|----------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 17-21                |                | 21-25         |                | 25-29         |                | 29-33         |                |  |
|                      | Manure<br>t/A        | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Layer</b>         |                      |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 2                    | 15             | 2             | 35             | 3             | 25             | 3             | 45             | 28   |
| Spring In. 1 week    | 2                    | 35             | 2             | 55             | 3             | 60             | 3             | 80             | 17   |
| Spring Uninc.        | 2                    | 60             | 2             | 80             | 3             | 95             | 3             | 115            | 6  |
| Fall                 | 2                    | 60             | 2             | 80             | 3             | 95             | 3             | 115            | 6  |
| Winter w/cover crop  | 2                    | 35             | 2             | 55             | 3             | 55             | 3             | 75             | 19   |
| Winter No cover crop | 2                    | 60             | 2             | 80             | 3             | 95             | 3             | 115            | 6  |

**Corn Silage After Alfalfa  
Phosphorus Based**

|                      | Yield Groups (ton/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reducton<br>from rate in table |
|----------------------|----------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---|
|                      | 17-21                |                | 21-25         |                | 25-29         |                | 29-33         |                |   |
|                      | Manure<br>t/A        | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |   |
| <b>Broiler</b>       |                      |                |               |                |               |                |               |                |   |
| Spring Inc. 1 day    | 1                    | 10             | 2             | 0              | 2             | 0              | 2             | 10             | 59  |
| Spring In. 1 week    | 2                    | 0              | 2             | 20             | 2             | 40             | 3             | 25             | 36  |
| Spring Uninc.        | 2                    | 45             | 2             | 65             | 2             | 85             | 3             | 95             | 12  |
| Fall                 | 2                    | 45             | 2             | 65             | 2             | 85             | 3             | 95             | 12  |
| Winter w/cover crop  | 2                    | 0              | 2             | 10             | 2             | 30             | 3             | 10             | 40  |
| Winter No cover crop | 2                    | 45             | 2             | 65             | 2             | 85             | 3             | 95             | 12  |

|                      | Yield Groups (ton/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reducton<br>from rate in table |
|----------------------|----------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---|
|                      | 17-21                |                | 21-25         |                | 25-29         |                | 29-33         |                |   |
|                      | Manure<br>t/A        | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |   |
| <b>Beef Cow/Calf</b> |                      |                |               |                |               |                |               |                |   |
| Spring Inc. 1 day    | 10                   | 0              | 15            | 0              | 15            | 0              | 25            | 0              | 6   |
| Spring In. 1 week    | 15                   | 0              | 20            | 0              | 20            | 15             | 25            | 35             | 4   |
| Spring Uninc.        | 15                   | 15             | 20            | 25             | 20            | 45             | 25            | 75             | 2   |
| Fall                 | 15                   | 15             | 20            | 25             | 20            | 45             | 25            | 75             | 2   |
| Winter w/cover crop  | 10                   | 0              | 15            | 0              | 20            | 0              | 20            | 40             | 4   |
| Winter No cover crop | 15                   | 15             | 20            | 25             | 20            | 45             | 20            | 85             | 2   |

|                      | Yield Groups (ton/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reducton<br>from rate in table |
|----------------------|----------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---|
|                      | 17-21                |                | 21-25         |                | 25-29         |                | 29-33         |                |   |
|                      | Manure<br>t/A        | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |   |
| <b>Beef Steer</b>    |                      |                |               |                |               |                |               |                |   |
| Spring Inc. 1 day    | 5                    | 15             | 10            | 0              | 15            | 0              | 20            | 0              | 7   |
| Spring In. 1 week    | 10                   | 0              | 15            | 0              | 20            | 0              | 25            | 0              | 5   |
| Spring Uninc.        | 20                   | 0              | 25            | 0              | 30            | 0              | 35            | 30             | 3   |
| Fall                 | 20                   | 0              | 25            | 0              | 30            | 0              | 35            | 30             | 3   |
| Winter w/cover crop  | 10                   | 0              | 15            | 0              | 15            | 0              | 20            | 20             | 6   |
| Winter No cover crop | 20                   | 0              | 20            | 15             | 20            | 35             | 20            | 75             | 3   |

|                      | Yield Groups (ton/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reducton<br>from rate in table |
|----------------------|----------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---|
|                      | 17-21                |                | 21-25         |                | 25-29         |                | 29-33         |                |   |
|                      | Manure<br>t/A        | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |   |
| <b>Horse</b>         |                      |                |               |                |               |                |               |                |   |
| Spring Inc. 1 day    | 10                   | 0              | 10            | 10             | 15            | 0              | 20            | 10             | 6   |
| Spring In. 1 week    | 10                   | 0              | 15            | 0              | 20            | 0              | 30            | 0              | 4   |
| Spring Uninc.        | 20                   | 0              | 25            | 0              | 30            | 20             | 35            | 45             | 2   |
| Fall                 | 20                   | 0              | 25            | 0              | 30            | 20             | 35            | 45             | 2   |
| Winter w/cover crop  | 10                   | 0              | 15            | 0              | 20            | 0              | 20            | 35             | 5   |
| Winter No cover crop | 20                   | 0              | 20            | 20             | 20            | 40             | 20            | 80             | 2   |

No more than 9000 gal/A of liquid manure can be applied in a single application.  
Spilt higher rates into multiple applications.

**Corn Silage After Soybeans  
Phosphorus Based**

|                      | Yield Groups (ton/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reducton<br>from rate in table |
|----------------------|----------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---|
|                      | 17-21                |                | 21-25         |                | 25-29         |                | 29-33         |                |   |
|                      | Manure<br>t/A        | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |   |
| <b>Solid Dairy</b>   |                      |                |               |                |               |                |               |                |   |
| Spring Inc. 1 day    | 20                   | 0              | 20            | 10             | 25            | 0              | 30            | 0              | 5   |
| Spring In. 1 week    | 25                   | 0              | 30            | 0              | 35            | 0              | 40            | 10             | 4   |
| Spring Uninc.        | 25                   | 40             | 30            | 50             | 35            | 60             | 40            | 70             | 2   |
| Fall                 | 25                   | 40             | 30            | 50             | 35            | 60             | 40            | 70             | 2   |
| Winter w/cover crop  | 20                   | 10             | 20            | 30             | 20            | 50             | 20            | 70             | 4   |
| Winter No cover crop | 20                   | 50             | 20            | 70             | 20            | 90             | 20            | 110            | 2   |

|                      | Yield Groups (ton/A) |                |                 |                |                 |                |                 |                | Increase N<br>fertilizer/1000 gal<br>manure rate reducton<br>from rate in table |
|----------------------|----------------------|----------------|-----------------|----------------|-----------------|----------------|-----------------|----------------|---|
|                      | 17-21                |                | 21-25           |                | 25-29           |                | 29-33           |                |   |
|                      | Manure<br>gal/A      | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A |   |
| <b>Liquid Dairy</b>  |                      |                |                 |                |                 |                |                 |                |   |
| Spring Inc. 1 day    | 6000                 | 0              | 8000            | 0              | 9000            | 0              | 11000           | 0              | 14  |
| Spring In. 1 week    | 8000                 | 10             | 10000           | 10             | 11000           | 20             | 13000           | 25             | 10  |
| Spring Uninc.        | 8000                 | 45             | 10000           | 55             | 11000           | 70             | 13000           | 75             | 6   |
| Fall                 | 8000                 | 45             | 10000           | 55             | 11000           | 70             | 13000           | 75             | 6   |
| Winter w/cover crop  | 5000                 | 35             | 5000            | 55             | 5000            | 75             | 5000            | 95             | 11  |
| Winter No cover crop | 5000                 | 60             | 5000            | 80             | 5000            | 100            | 5000            | 120            | 6   |

|                      | Yield Groups (ton/A) |                |                 |                |                 |                |                 |                | Increase N<br>fertilizer/1000 gal<br>manure rate reducton<br>from rate in table |
|----------------------|----------------------|----------------|-----------------|----------------|-----------------|----------------|-----------------|----------------|---|
|                      | 17-21                |                | 21-25           |                | 25-29           |                | 29-33           |                |   |
|                      | Manure<br>gal/A      | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A |   |
| <b>Liquid Swine</b>  |                      |                |                 |                |                 |                |                 |                |   |
| Spring Inc. 1 day    | 4000                 | 0              | 5000            | 0              | 6000            | 0              | 7000            | 0              | 22  |
| Spring In. 1 week    | 4000                 | 40             | 5000            | 50             | 6000            | 55             | 7000            | 65             | 12  |
| Spring Uninc.        | 4000                 | 65             | 5000            | 80             | 6000            | 95             | 7000            | 105            | 6   |
| Fall                 | 4000                 | 65             | 5000            | 80             | 6000            | 95             | 7000            | 105            | 6   |
| Winter w/cover crop  | 4000                 | 35             | 5000            | 40             | 5000            | 60             | 5000            | 80             | 14  |
| Winter No cover crop | 4000                 | 65             | 5000            | 80             | 5000            | 100            | 5000            | 120            | 6   |

|                      | Yield Groups (ton/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reducton<br>from rate in table |
|----------------------|----------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---|
|                      | 17-21                |                | 21-25         |                | 25-29         |                | 29-33         |                |   |
|                      | Manure<br>t/A        | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |   |
| <b>Layer</b>         |                      |                |               |                |               |                |               |                |   |
| Spring Inc. 1 day    | 2                    | 35             | 2             | 55             | 3             | 45             | 3             | 65             | 28  |
| Spring In. 1 week    | 2                    | 55             | 2             | 75             | 3             | 80             | 3             | 100            | 17  |
| Spring Uninc.        | 2                    | 80             | 2             | 100            | 3             | 115            | 3             | 135            | 6   |
| Fall                 | 2                    | 80             | 2             | 100            | 3             | 115            | 3             | 135            | 6   |
| Winter w/cover crop  | 2                    | 55             | 2             | 75             | 2             | 95             | 2             | 115            | 19  |
| Winter No cover crop | 2                    | 80             | 2             | 100            | 2             | 120            | 2             | 140            | 6   |

**Corn Silage After Soybeans  
Phosphorus Based**

|                      | Yield Groups (ton/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reducton<br>from rate in table |
|----------------------|----------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---|
|                      | 17-21                |                | 21-25         |                | 25-29         |                | 29-33         |                |   |
|                      | Manure<br>t/A        | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |   |
| <b>Broiler</b>       |                      |                |               |                |               |                |               |                |   |
| Spring Inc. 1 day    | 2                    | 0              | 2             | 0              | 2             | 10             | 3             | 0              | 59  |
| Spring In. 1 week    | 2                    | 20             | 2             | 40             | 2             | 60             | 3             | 45             | 36  |
| Spring Uninc.        | 2                    | 65             | 2             | 85             | 2             | 105            | 3             | 115            | 12  |
| Fall                 | 2                    | 65             | 2             | 85             | 2             | 105            | 3             | 115            | 12  |
| Winter w/cover crop  | 2                    | 10             | 2             | 30             | 2             | 50             | 2             | 70             | 40  |
| Winter No cover crop | 2                    | 65             | 2             | 85             | 2             | 105            | 2             | 125            | 12  |

|                      | Yield Groups (ton/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reducton<br>from rate in table |
|----------------------|----------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---|
|                      | 17-21                |                | 21-25         |                | 25-29         |                | 29-33         |                |   |
|                      | Manure<br>t/A        | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |   |
| <b>Beef Cow/Calf</b> |                      |                |               |                |               |                |               |                |   |
| Spring Inc. 1 day    | 15                   | 0              | 15            | 0              | 20            | 0              | 25            | 15             | 6   |
| Spring In. 1 week    | 15                   | 10             | 20            | 15             | 20            | 35             | 25            | 55             | 4   |
| Spring Uninc.        | 15                   | 35             | 20            | 45             | 20            | 65             | 25            | 95             | 2   |
| Fall                 | 15                   | 35             | 20            | 45             | 20            | 65             | 25            | 95             | 2   |
| Winter w/cover crop  | 15                   | 0              | 20            | 0              | 20            | 20             | 20            | 60             | 4   |
| Winter No cover crop | 15                   | 35             | 20            | 45             | 20            | 65             | 20            | 105            | 2   |

|                      | Yield Groups (ton/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reducton<br>from rate in table |
|----------------------|----------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---|
|                      | 17-21                |                | 21-25         |                | 25-29         |                | 29-33         |                |   |
|                      | Manure<br>t/A        | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |   |
| <b>Beef Steer</b>    |                      |                |               |                |               |                |               |                |   |
| Spring Inc. 1 day    | 10                   | 0              | 15            | 0              | 15            | 0              | 20            | 10             | 7   |
| Spring In. 1 week    | 15                   | 0              | 20            | 0              | 20            | 10             | 30            | 0              | 5   |
| Spring Uninc.        | 25                   | 0              | 30            | 0              | 40            | 0              | 35            | 50             | 3   |
| Fall                 | 25                   | 0              | 30            | 0              | 40            | 0              | 35            | 50             | 3   |
| Winter w/cover crop  | 15                   | 0              | 15            | 0              | 20            | 0              | 20            | 40             | 6   |
| Winter No cover crop | 20                   | 15             | 20            | 35             | 20            | 55             | 20            | 95             | 3   |

|                      | Yield Groups (ton/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reducton<br>from rate in table |
|----------------------|----------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---|
|                      | 17-21                |                | 21-25         |                | 25-29         |                | 29-33         |                |   |
|                      | Manure<br>t/A        | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |   |
| <b>Horse</b>         |                      |                |               |                |               |                |               |                |   |
| Spring Inc. 1 day    | 10                   | 10             | 15            | 0              | 20            | 0              | 25            | 0              | 6   |
| Spring In. 1 week    | 15                   | 0              | 20            | 0              | 25            | 0              | 35            | 0              | 4   |
| Spring Uninc.        | 20                   | 20             | 25            | 30             | 30            | 40             | 35            | 65             | 2   |
| Fall                 | 20                   | 20             | 25            | 30             | 30            | 40             | 35            | 65             | 2   |
| Winter w/cover crop  | 15                   | 0              | 20            | 0              | 20            | 15             | 20            | 55             | 5   |
| Winter No cover crop | 20                   | 20             | 20            | 40             | 20            | 60             | 20            | 100            | 2   |

No more than 9000 gal/A of liquid manure can be applied in a single application.  
Spilt higher rates into multiple applications.

**Grass Hay  
Phosphorus Based**

|                      | Yield Groups (ton/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|----------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 3-4                  |                | 4-5           |                | 5-6           |                | 6-7           |                |  |
|                      | Manure<br>t/A        | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Solid Dairy</b>   |                      |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 15                   | 105            | 20            | 130            | 25            | 155            | 25            | 205            | 5  |
| Spring In. 1 week    | 15                   | 130            | 20            | 160            | 25            | 195            | 25            | 245            | 4  |
| Spring Uninc.        | 15                   | 150            | 20            | 190            | 25            | 230            | 25            | 280            | 2  |
| Fall                 | 15                   | 150            | 20            | 190            | 25            | 230            | 25            | 280            | 2  |
| Winter w/cover crop  | 15                   | 120            | 20            | 150            | 20            | 200            | 20            | 250            | 4  |
| Winter No cover crop | 15                   | 150            | 20            | 190            | 20            | 240            | 20            | 290            | 2  |

|                      | Yield Groups (ton/A) |                |                 |                |                 |                |                 |                | Increase N<br>fertilizer/1000 gal<br>manure rate reduction<br>from rate in table |
|----------------------|----------------------|----------------|-----------------|----------------|-----------------|----------------|-----------------|----------------|--|
|                      | 3-4                  |                | 4-5             |                | 5-6             |                | 6-7             |                |  |
|                      | Manure<br>gal/A      | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A |  |
| <b>Liquid Dairy</b>  |                      |                |                 |                |                 |                |                 |                |  |
| Spring Inc. 1 day    | 5000                 | 110            | 6000            | 145            | 7000            | 180            | 8000            | 220            | 14   |
| Spring In. 1 week    | 5000                 | 130            | 6000            | 170            | 7000            | 210            | 8000            | 250            | 10   |
| Spring Uninc.        | 5000                 | 150            | 6000            | 195            | 7000            | 240            | 8000            | 285            | 6  |
| Fall                 | 5000                 | 150            | 6000            | 195            | 7000            | 240            | 8000            | 285            | 6  |
| Winter w/cover crop  | 5000                 | 125            | 5000            | 175            | 5000            | 225            | 5000            | 275            | 11   |
| Winter No cover crop | 5000                 | 150            | 5000            | 200            | 5000            | 250            | 5000            | 300            | 6  |

|                      | Yield Groups (ton/A) |                |                 |                |                 |                |                 |                | Increase N<br>fertilizer/1000 gal<br>manure rate reduction<br>from rate in table |
|----------------------|----------------------|----------------|-----------------|----------------|-----------------|----------------|-----------------|----------------|--|
|                      | 3-4                  |                | 4-5             |                | 5-6             |                | 6-7             |                |  |
|                      | Manure<br>gal/A      | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A |  |
| <b>Liquid Swine</b>  |                      |                |                 |                |                 |                |                 |                |  |
| Spring Inc. 1 day    | 3000                 | 115            | 3000            | 165            | 4000            | 195            | 4000            | 245            | 22   |
| Spring In. 1 week    | 3000                 | 145            | 3000            | 195            | 4000            | 230            | 4000            | 280            | 12   |
| Spring Uninc.        | 3000                 | 160            | 3000            | 210            | 4000            | 255            | 4000            | 305            | 6  |
| Fall                 | 3000                 | 160            | 3000            | 210            | 4000            | 255            | 4000            | 305            | 6  |
| Winter w/cover crop  | 3000                 | 140            | 3000            | 190            | 4000            | 225            | 4000            | 275            | 14   |
| Winter No cover crop | 3000                 | 160            | 3000            | 210            | 4000            | 255            | 4000            | 305            | 6  |

|                      | Yield Groups (ton/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|----------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 3-4                  |                | 4-5           |                | 5-6           |                | 6-7           |                |  |
|                      | Manure<br>t/A        | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Layer</b>         |                      |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 1                    | 150            | 1             | 200            | 2             | 225            | 2             | 275            | 28   |
| Spring In. 1 week    | 1                    | 165            | 1             | 215            | 2             | 245            | 2             | 295            | 17   |
| Spring Uninc.        | 1                    | 175            | 1             | 225            | 2             | 270            | 2             | 320            | 6  |
| Fall                 | 1                    | 175            | 1             | 225            | 2             | 270            | 2             | 320            | 6  |
| Winter w/cover crop  | 1                    | 160            | 1             | 210            | 2             | 245            | 2             | 295            | 19   |
| Winter No cover crop | 1                    | 175            | 1             | 225            | 2             | 270            | 2             | 320            | 6  |

**Grass Hay  
Phosphorus Based**

|                      | Yield Groups (ton/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|----------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 3-4                  |                | 4-5           |                | 5-6           |                | 6-7           |                |  |
|                      | Manure<br>t/A        | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Broiler</b>       |                      |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 1                    | 120            | 1             | 170            | 1             | 220            | 2             | 210            | 59   |
| Spring In. 1 week    | 1                    | 145            | 1             | 195            | 1             | 245            | 2             | 260            | 36   |
| Spring Uninc.        | 1                    | 170            | 1             | 220            | 1             | 270            | 2             | 305            | 12   |
| Fall                 | 1                    | 170            | 1             | 220            | 1             | 270            | 2             | 305            | 12   |
| Winter w/cover crop  | 1                    | 140            | 1             | 190            | 1             | 240            | 2             | 250            | 40   |
| Winter No cover crop | 1                    | 170            | 1             | 220            | 1             | 270            | 2             | 305            | 12   |

|                      | Yield Groups (ton/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|----------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 3-4                  |                | 4-5           |                | 5-6           |                | 6-7           |                |  |
|                      | Manure<br>t/A        | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Beef Cow/Calf</b> |                      |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 10                   | 55             | 10            | 85             | 15            | 90             | 15            | 250            | 6  |
| Spring In. 1 week    | 10                   | 70             | 10            | 100            | 15            | 110            | 15            | 270            | 4  |
| Spring Uninc.        | 10                   | 90             | 10            | 120            | 15            | 135            | 15            | 295            | 2  |
| Fall                 | 10                   | 90             | 10            | 120            | 15            | 135            | 15            | 295            | 2  |
| Winter w/cover crop  | 10                   | 65             | 10            | 95             | 15            | 105            | 15            | 265            | 4  |
| Winter No cover crop | 10                   | 90             | 10            | 120            | 15            | 135            | 15            | 295            | 2  |

|                      | Yield Groups (ton/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|----------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 3-4                  |                | 4-5           |                | 5-6           |                | 6-7           |                |  |
|                      | Manure<br>t/A        | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Beef Steer</b>    |                      |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 15                   | 0              | 20            | 0              | 25            | 0              | 20            | 190            | 7  |
| Spring In. 1 week    | 20                   | 10             | 30            | 0              | 35            | 0              | 20            | 230            | 5  |
| Spring Uninc.        | 40                   | 0              | 40            | 30             | 40            | 60             | 20            | 275            | 3  |
| Fall                 | 40                   | 0              | 40            | 30             | 40            | 60             | 20            | 275            | 3  |
| Winter w/cover crop  | 20                   | 0              | 20            | 30             | 20            | 60             | 20            | 220            | 6  |
| Winter No cover crop | 20                   | 55             | 20            | 85             | 20            | 115            | 20            | 275            | 3  |

|                      | Yield Groups (ton/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|----------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 3-4                  |                | 4-5           |                | 5-6           |                | 6-7           |                |  |
|                      | Manure<br>t/A        | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Horse</b>         |                      |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 10                   | 50             | 15            | 50             | 20            | 50             | 20            | 210            | 6  |
| Spring In. 1 week    | 10                   | 70             | 15            | 75             | 20            | 85             | 20            | 245            | 4  |
| Spring Uninc.        | 10                   | 85             | 15            | 105            | 20            | 120            | 20            | 280            | 2  |
| Fall                 | 10                   | 85             | 15            | 105            | 20            | 120            | 20            | 280            | 2  |
| Winter w/cover crop  | 10                   | 60             | 15            | 70             | 20            | 75             | 20            | 235            | 5  |
| Winter No cover crop | 10                   | 85             | 15            | 105            | 20            | 120            | 20            | 280            | 2  |

No more than 9000 gal/A of liquid manure can be applied in a single application.  
Spilt higher rates into multiple applications.

**Small Grains  
Phosphorus Based**

|                      | Yield Groups (bu/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reducton<br>from rate in table |
|----------------------|---------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---|
|                      | 60-75               |                | 75-90         |                | 90-105        |                | 105-130       |                |   |
|                      | Manure<br>t/A       | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |   |
| <b>Solid Dairy</b>   |                     |                |               |                |               |                |               |                |   |
| Spring Inc. 1 day    | 5                   | 10             | 10            | 0              | 15            | 0              | 15            | 0              | 5   |
| Spring In. 1 week    | 10                  | 0              | 15            | 0              | 20            | 0              | 25            | 0              | 4   |
| Spring Uninc.        | 15                  | 0              | 20            | 10             | 25            | 15             | 30            | 20             | 2   |
| Fall                 | 15                  | 0              | 20            | 10             | 25            | 15             | 30            | 20             | 2   |
| Winter w/cover crop  | 10                  | 0              | 15            | 0              | 15            | 0              | 20            | 0              | 4   |
| Winter No cover crop | 15                  | 0              | 20            | 10             | 20            | 25             | 20            | 40             | 2   |

|                      | Yield Groups (bu/A) |                |                 |                |                 |                |                 |                | Increase N<br>fertilizer/1000 gal<br>manure rate reducton<br>from rate in table |
|----------------------|---------------------|----------------|-----------------|----------------|-----------------|----------------|-----------------|----------------|---|
|                      | 60-75               |                | 75-90           |                | 90-105          |                | 105-130         |                |   |
|                      | Manure<br>gal/A     | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A |   |
| <b>Liquid Dairy</b>  |                     |                |                 |                |                 |                |                 |                |   |
| Spring Inc. 1 day    | 3000                | 0              | 4000            | 0              | 5000            | 0              | 6000            | 0              | 14  |
| Spring In. 1 week    | 4000                | 0              | 5000            | 0              | 7000            | 0              | 8000            | 0              | 10  |
| Spring Uninc.        | 5000                | 0              | 6000            | 15             | 7000            | 25             | 8000            | 35             | 6   |
| Fall                 | 5000                | 0              | 6000            | 15             | 7000            | 25             | 8000            | 35             | 6   |
| Winter w/cover crop  | 3000                | 0              | 4000            | 0              | 5000            | 0              | 5000            | 25             | 11  |
| Winter No cover crop | 5000                | 0              | 5000            | 20             | 5000            | 35             | 5000            | 50             | 6   |

|                      | Yield Groups (bu/A) |                |                 |                |                 |                |                 |                | Increase N<br>fertilizer/1000 gal<br>manure rate reducton<br>from rate in table |
|----------------------|---------------------|----------------|-----------------|----------------|-----------------|----------------|-----------------|----------------|---|
|                      | 60-75               |                | 75-90           |                | 90-105          |                | 105-130         |                |   |
|                      | Manure<br>gal/A     | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A | Manure<br>gal/A | Fert N<br>lb/A |   |
| <b>Liquid Swine</b>  |                     |                |                 |                |                 |                |                 |                |   |
| Spring Inc. 1 day    | 2000                | 0              | 2000            | 0              | 3000            | 0              | 4000            | 0              | 22  |
| Spring In. 1 week    | 3000                | 0              | 3000            | 15             | 4000            | 15             | 5000            | 20             | 12  |
| Spring Uninc.        | 3000                | 15             | 3000            | 30             | 4000            | 40             | 5000            | 50             | 6   |
| Fall                 | 3000                | 15             | 3000            | 30             | 4000            | 40             | 5000            | 50             | 6   |
| Winter w/cover crop  | 3000                | 0              | 3000            | 0              | 4000            | 0              | 5000            | 10             | 14  |
| Winter No cover crop | 3000                | 15             | 3000            | 30             | 4000            | 40             | 5000            | 50             | 6   |

|                      | Yield Groups (bu/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reducton<br>from rate in table |
|----------------------|---------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---|
|                      | 60-75               |                | 75-90         |                | 90-105        |                | 105-130       |                |   |
|                      | Manure<br>t/A       | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |   |
| <b>Layer</b>         |                     |                |               |                |               |                |               |                |   |
| Spring Inc. 1 day    | 1                   | 0              | 1             | 20             | 2             | 0              | 2             | 25             | 28  |
| Spring In. 1 week    | 1                   | 20             | 1             | 35             | 2             | 30             | 2             | 45             | 17  |
| Spring Uninc.        | 1                   | 30             | 1             | 45             | 2             | 55             | 2             | 70             | 6   |
| Fall                 | 1                   | 30             | 1             | 45             | 2             | 55             | 2             | 70             | 6   |
| Winter w/cover crop  | 1                   | 15             | 1             | 30             | 2             | 30             | 2             | 45             | 19  |
| Winter No cover crop | 1                   | 30             | 1             | 45             | 2             | 55             | 2             | 70             | 6   |

**Small Grains  
Phosphorus Based**

|                      | Yield Groups (bu/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|---------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 60-75               |                | 75-90         |                | 90-105        |                | 105-130       |                |  |
|                      | Manure<br>t/A       | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Broiler</b>       |                     |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 1                   | 0              | 1             | 0              | 1             | 0              | 1             | 20             | 59   |
| Spring In. 1 week    | 1                   | 0              | 1             | 15             | 2             | 0              | 2             | 0              | 36   |
| Spring Uninc.        | 1                   | 25             | 1             | 40             | 2             | 40             | 2             | 55             | 12   |
| Fall                 | 1                   | 25             | 1             | 40             | 2             | 40             | 2             | 55             | 12   |
| Winter w/cover crop  | 1                   | 0              | 1             | 10             | 2             | 0              | 2             | 0              | 40   |
| Winter No cover crop | 1                   | 25             | 1             | 40             | 2             | 40             | 2             | 55             | 12   |

|                      | Yield Groups (bu/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|---------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 60-75               |                | 75-90         |                | 90-105        |                | 105-130       |                |  |
|                      | Manure<br>t/A       | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Beef Cow/Calf</b> |                     |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 10                  | 55             | 10            | 85             | 15            | 90             | 15            | 0              | 6  |
| Spring In. 1 week    | 10                  | 70             | 10            | 100            | 15            | 110            | 15            | 20             | 4  |
| Spring Uninc.        | 10                  | 90             | 10            | 120            | 15            | 135            | 15            | 45             | 2  |
| Fall                 | 10                  | 90             | 10            | 120            | 15            | 135            | 15            | 45             | 2  |
| Winter w/cover crop  | 10                  | 65             | 10            | 95             | 15            | 105            | 15            | 15             | 4  |
| Winter No cover crop | 10                  | 90             | 10            | 120            | 15            | 135            | 15            | 45             | 2  |

|                      | Yield Groups (bu/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|---------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 60-75               |                | 75-90         |                | 90-105        |                | 105-130       |                |  |
|                      | Manure<br>t/A       | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Beef Steer</b>    |                     |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 15                  | 0              | 20            | 0              | 25            | 0              | 10            | 10             | 7  |
| Spring In. 1 week    | 20                  | 10             | 30            | 0              | 35            | 0              | 15            | 0              | 5  |
| Spring Uninc.        | 40                  | 0              | 40            | 30             | 40            | 60             | 20            | 25             | 3  |
| Fall                 | 40                  | 0              | 40            | 30             | 40            | 60             | 20            | 25             | 3  |
| Winter w/cover crop  | 20                  | 0              | 20            | 30             | 20            | 60             | 15            | 0              | 6  |
| Winter No cover crop | 20                  | 55             | 20            | 85             | 20            | 115            | 20            | 25             | 3  |

|                      | Yield Groups (bu/A) |                |               |                |               |                |               |                | Increase N fertilizer/ton<br>manure rate reduction<br>from rate in table |
|----------------------|---------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|--|
|                      | 60-75               |                | 75-90         |                | 90-105        |                | 105-130       |                |  |
|                      | Manure<br>t/A       | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A | Manure<br>t/A | Fert N<br>lb/A |  |
| <b>Horse</b>         |                     |                |               |                |               |                |               |                |  |
| Spring Inc. 1 day    | 15                  | 20             | 15            | 50             | 20            | 50             | 15            | 0              | 6  |
| Spring In. 1 week    | 15                  | 45             | 15            | 75             | 20            | 85             | 20            | 0              | 4  |
| Spring Uninc.        | 15                  | 75             | 15            | 105            | 20            | 120            | 20            | 30             | 2  |
| Fall                 | 15                  | 75             | 15            | 105            | 20            | 120            | 20            | 30             | 2  |
| Winter w/cover crop  | 15                  | 40             | 15            | 70             | 20            | 75             | 15            | 0              | 5  |
| Winter No cover crop | 15                  | 75             | 15            | 105            | 20            | 120            | 20            | 30             | 2  |

No more than 9000 gal/A of liquid manure can be applied in a single application.  
Spilt higher rates into multiple applications.