

# Potato General Nitrogen Recommendation Worksheet

## Step 1: Crop N requirement (R)

Enter base value (in kg N/ha) from **Table 1** based on variety \_\_\_\_\_ (a)  
 Enter 1.0 for full season crops or 0.9 for early harvested or seed crops \_\_\_\_\_ (b)  
 Enter 0 if planted on or before May 25; 10 if planted May 26 to June 1;  
 20 if planted June 2 to June 8; 30 if planted June 9 or later \_\_\_\_\_ (c)

$$R \text{ in kg N/ha} = [ \text{_____ (a)} \times \text{_____ (b)} - \text{_____ (c)} ] \dots\dots\dots \text{_____ (1)}$$

## Step 2: Credit manure or compost ammonium nitrogen ( $M_{AMM}$ ) in kg N/ha

Enter manure or compost application rate:  
 in gallons/acre \_\_\_\_\_ (a) and (b) = 89,000  
**OR** in m<sup>3</sup>/ha \_\_\_\_\_ (a) and (b) = 1,000  
**OR** in tons/acre \_\_\_\_\_ (a) and (b) = 445  
**OR** in tonnes/ha \_\_\_\_\_ (a) and (b) = 1,000

Enter manure ammonium concentration in ppm (line 101 from **Table 2**) \_\_\_\_\_ (c)  
 Enter manure ammonium availability coefficient (from **Table 3**) \_\_\_\_\_ (d)

$$M_{AMM} \text{ in kg N/ha} = \text{_____ (a)} \times \text{_____ (c)} \times \text{_____ (d)} \div \text{_____ (b)} = \dots\dots\dots \text{_____ (2)}$$

## Step 3: Credit manure or compost organic nitrogen ( $M_{ORG}$ ) in kg N/ha

Enter (a) and (b) from Step 2: \_\_\_\_\_ (a) \_\_\_\_\_ (b)  
 Enter manure organic N concentration in ppm (line 104 from **Table 2**) \_\_\_\_\_ (c)  
 Enter manure organic N availability coefficient (from **Table 4**) \_\_\_\_\_ (d)

$$M_{ORG} \text{ in kg N/ha} = \text{_____ (a)} \times \text{_____ (c)} \times \text{_____ (d)} \div \text{_____ (b)} = \dots\dots\dots \text{_____ (3)}$$

## Step 4: Credit crop grown in the previous year (C)

	Alfalfa	Red clover (2nd yr)	Red Clover (seeding yr)	Soybean	Annual ryegrass
Less than 1/3 stand:	0	0	0	0	0
Between 1/3 and 2/3 stand:	40	20	10	0	0
More than 2/3 Stand:	80	40	20	10	-15

$$C \text{ in kg N/ha} = \dots\dots\dots \text{_____ (4)}$$

## Step 5: Credit soil organic matter content (S)

Soil organic matter greater than or equal to 3.5% 15  
 Soil organic matter between 2.5% and 3.5% 0  
 Soil organic matter less than or equal to 2.5% -15

$$S \text{ in kg N/ha} = (\text{enter appropriate value from above}) = \dots\dots\dots \text{_____ (5)}$$

## Step 6: Calculate general fertilizer nitrogen recommendation ( $F_N$ ) in kg N/ha

(Multiply  $F_N$  by 0.89 to get fertilizer nitrogen recommendation in units of lb N/ac)

$$F_N \text{ in kg N/ha} = \text{(1)} - \text{(2)} - \text{(3)} - \text{(4)} - \text{(5)} = \dots\dots\dots \text{_____ (6)}$$

This is your general fertilizer nitrogen recommendation. If you used the SMN test, continue on the second page of this insert.

## SMN Calculation Worksheet

**Step 7: Crop N requirement (R)**

Enter crop N requirement (R) from **line (1)** on previous page

R in kg N/ha = ..... (7)

**Step 8: Credit ammonium in SMN test ( $SMN_{AMM}$ ) in kg N/ha**

Enter SMN ammonium test value in ppm \_\_\_\_\_ (a)

If (a)  $\leq$  9, then  $SMN_{AMM} = 0$

If (a)  $>$  9, then  $SMN_{AMM} = [ \text{_____ (a) - 9} ] \times 1.9 = \text{_____ (b)}$

$SMN_{AMM}$  in kg N/ha = (enter 0 or (b) as appropriate) = ..... (8)

**Step 9: Credit nitrate in SMN test ( $SMN_{NIT}$ ) in kg N/ha**

Enter SMN nitrate test value in ppm \_\_\_\_\_ (a)

If (a)  $\leq$  6, then  $SMN_{NIT} = 0$

If (a)  $>$  6, then  $SMN_{NIT} = [ \text{_____ (a) - 6} ] \times 1.9 = \text{_____ (b)}$

$SMN_{NIT}$  in kg N/ha = (enter 0 or (b) as appropriate) = ..... (9)

**Step 10: Credit soil organic matter content (S)**

Enter soil organic matter credit (S) from **line (5)** on previous page

S in kg N/ha = ..... (10)

**Step 11: Calculate nitrogen recommendation ( $F_{SMN}$ ) based on the SMN test in kg N/ha**

This is your fertilizer nitrogen recommendation using the SMN test in kg N/ha

$F_{SMN}$  in kg N/ha = (7) - (8) - (9) - (10) = ..... (11)

**Step 12: Compare to general fertilizer nitrogen recommendation**

Enter  $F_{SMN}$  from **line 11** \_\_\_\_\_ (a)

Enter  $F_N$  from **line 6** on previous page \_\_\_\_\_ (b)

Fertilizer nitrogen recommendation is (a) or (b), whichever is lower = ..... (12)

(Multiply  $F_N$  by 0.89 to get fertilizer nitrogen recommendation in units of lb N/ac)