

## Dietary Nitrate Intake Worksheet for Ruminants

	<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>	<i>E</i>	<i>F</i>	<i>G</i>	<i>H</i>
	<i>Daily Intake As Fed</i>	<i>% Moisture</i>	<i>% Dry Matter</i>	<i>Lb DM Intake Daily</i>	<i>Lb Feed Water</i>	<i>Feed NO<sub>3</sub>-N Content</i>	<i>Content Factor</i>	<i>mg of NO<sub>3</sub>-N Intake</i>
<i>Calculation:</i>	<i>Lb</i>	<i>Test</i>	<i>100-B</i>	<i>AxC/100</i>	<i>AxB/100</i>	<i>PPM</i>	<i>Given</i>	<i>DxFxG</i>
A. Feed Item <sup>a</sup>							.454	
_____							.454	
_____							.454	
_____							.454	
_____							.454	
_____							.454	
_____							.454	
_____							.454	
_____							.454	
Feed Total				_____	_____			_____

<sup>a</sup>Include expected pasture intake in all diets using such)

### B. Drinking water contribution

- Expected intake<sup>a</sup> \_\_\_\_\_ (I)
- Feed water (Total E) \_\_\_\_\_ (J)
- Drinking water (I-J) \_\_\_\_\_ (K)
- Mg NO<sub>3</sub>-N from drinking water: \_\_\_\_\_ (L)

K x Water NO<sub>3</sub>-N as ppm or mg/l

\_\_\_\_\_ x \_\_\_\_\_ x .454 = L

## Dietary Nitrate Intake Worksheet for Ruminants (continued)

C. Total mg NO<sub>3</sub>-N intake daily (M)

$$\begin{array}{l} \text{Total H + L} \\ \text{_____} + \text{_____} = \text{M} \end{array}$$

D. NO<sub>3</sub>-N content of total diet as % DM<sup>b</sup> (N)

$$\begin{array}{l} (M/454,000) \div \text{tTotal D} \times 100 \\ \text{_____} \div \text{_____} = \text{_____} \text{ (N)} \end{array}$$

E. Adjustment of ration to control NO<sub>3</sub>-N content of diet<sup>b</sup>

Desired level in TRDM, including water: \_\_\_\_\_% (P) —see Table 8 for guide

Assumed desired level in this example \_\_\_\_\_ (P)

Current content (N) \_\_\_\_\_ (Q)

Content to be reduced (R)

$$Q - P = R$$

Amount to be reduced (S)

$$D \times R/100 = S$$

Difference in content of NO<sub>3</sub>-N of high and low forage (T)

$$\text{High forage (F) - Low forage (F)}/10,000$$

Lb forage dry matter to be exchanged (U)

$$S \div T/100 = U$$

New high NO<sub>3</sub>-N forage DMI (V)

$$(\text{Old}) D - U = V$$

New as fed amount of high forage

$$V \div C/100$$

New low NO<sub>3</sub>-N forage DMI (W)

$$(\text{Old}) D + U = W$$

Restriction on single meal dry matter intake for high NO<sub>3</sub>-N forage<sup>c</sup>: —see Table 4

Maximum intake = \_\_\_\_\_/cwt BW (X) —from Table 4

Single meal max in lb FDMI (Y)

$$\text{Max} \times \text{cwt BW} = Y$$

Comparison

Y vs V—If daily amount V is greater than Y, it must be fed in more than one meal.

Choose a desired risk level of NO<sub>3</sub>-N in total ration dry matter that enables removal of silages or haylages at a rate that prevents molding and heating in the silo. When this is not feasible, it may not be possible to feed the high nitrate forage.

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<sup>a</sup>See Table 7 for expected water intakes.

<sup>b</sup>See Table 8 and the text for interpretation

<sup>c</sup>See Table 4 for possible need for maximum single meal intakes for forages containing 1100 ppm NO<sub>3</sub>-N or higher