

# Manure Application Rate Calculation Work Sheet

		<i>Example:</i>	<i>Your Number:</i>
<b>Step 1</b>	<b>Nutrient needs of crop (lbs/acre)</b>	N= <u>180</u>	N= _____
	Recommendations based on soil test results and a realistic yield goal.	P <sub>2</sub> O <sub>5</sub> = <u>95</u>	P <sub>2</sub> O <sub>5</sub> = _____
		K <sub>2</sub> O= <u>40</u>	K <sub>2</sub> O= _____
<b>Step 2</b>	<b>Total nutrient value of effluent (lbs/1000gal.)</b>	N= <u>5.2</u>	N= _____
	Based on manure analysis of a representative sample collected close to time of application.	P <sub>2</sub> O <sub>5</sub> = <u>1.3</u>	P <sub>2</sub> O <sub>5</sub> = _____
		K <sub>2</sub> O= <u>5.9</u>	K <sub>2</sub> O= _____
<b>Step 3</b>	<b>Determine available nutrients (lbs/1000gal)</b>	N= <u>2.6</u>	N= _____
	Multiply the value from Step 2 by nutrient availability, 50% for N and 90% for P and K	P <sub>2</sub> O <sub>5</sub> = <u>1.2</u>	P <sub>2</sub> O <sub>5</sub> = _____
		K <sub>2</sub> O= <u>5.3</u>	K <sub>2</sub> O= _____
<b>Step 4</b>	<b>Calculate the rates of application needed for N, P and K (1000gal/acre)</b>	N= <u>69</u>	N= _____
	Divide values from Step 1 by values from Step 3.	P <sub>2</sub> O <sub>5</sub> = <u>79</u>	P <sub>2</sub> O <sub>5</sub> = _____
		K <sub>2</sub> O= <u>7.5</u>	K <sub>2</sub> O= _____
<b>Step 5</b>	<b>Select the rate of effluent to be applied (1000gal/acre)</b>		
	Choose the nutrient for which the manure rate is to be based. Select the highest of three if manure is used as a complete fertilizer; select the lowest for maximum nutrient use efficiency.	Rate= <u>69</u>	Rate= _____
		<i>(based on N needs for this example)</i>	
<b>Step 6</b>	<b>Determine amount of available nutrients being applied (lbs/acre)</b>	N= <u>180</u>	N= _____
	Multiply the rate chosen in Step 5, by available nutrients, Step 3.	P <sub>2</sub> O <sub>5</sub> = <u>83</u>	P <sub>2</sub> O <sub>5</sub> = _____
		K <sub>2</sub> O= <u>366</u>	K <sub>2</sub> O= _____
<b>Step 7</b>	<b>Determine amount of supplemental nutrients needed (lbs/acre)</b>	N= <u>0</u>	N= _____
	Subtract the nutrients being applied, Step 6 from nutrients needed, Step 1. If the difference is negative, more nutrients applied than needed.	P <sub>2</sub> O <sub>5</sub> = <u>12</u>	P <sub>2</sub> O <sub>5</sub> = _____
		K <sub>2</sub> O= <u>0</u>	K <sub>2</sub> O= _____
<b>Step 8</b>	<b>Determine total depth of application (acre-inch)</b>	= <u>2.6</u> Acre-inches	= _____ Acre-inches
	Divide gal/acre from Step 5 by 27,000 to get irrigation depth needed to provide nutrients.		
<b>Step 9</b>	<b>Determine number of application and amount of each application</b>	1 <sup>st</sup> = <u>1.0</u> Acre-inch	1 <sup>st</sup> = _____ Acre-inch
	Based on growth stages and crop nutrient needs at each growth stage, and amount of nutrients applied each time.	2 <sup>nd</sup> = <u>0.8</u> Acre-inch	2 <sup>nd</sup> = _____ Acre-inch
		3 <sup>rd</sup> = <u>0.8</u> Acre-inch	3 <sup>rd</sup> = _____ Acre-inch