### Commercial Sources of Plant Food Used in Vineyards

#### Nitrogen Materials
- **Ammonium nitrate**
  - % Nitrogen: 33.5
- **Ammonium sulfate**
  - % Nitrogen: 20.0 - 21.0
- **Aqua ammonia**
  - 20
- **Calcium nitrate**
  - 15.5
- **Urea**
  - 45 - 46
- **Anhydrous ammonia**
  - 82

#### Potash Materials
- **Potassium sulfate (sulfate of potash)**
  - % K₂O: 53
- **Potassium chloride (muriate of potash)**
  - 62

(Potassium oxide is called potash)

#### Zinc Materials
- **Zinc sulfate**
  - 23% metallic zinc
  - or
  - 36% metallic zinc

Several different zinc products available. Follow directions.

#### Boron Materials
- **Borax**
  - % B₂O₃: 36
- **Fertilizer Borate, Regular**
  - 34
- **Fertilizer Borate, High Grade**
  - 44 to 46
- **Tronbor®**
  - 44
- **Boro-Spray® (Granulated)**
  - 58
- **Polybor® (may be called Solubor®)**
  - (a powder)
  - 66

#### Mixed Fertilizers
- **Nitrogen - Phosphorus - Potassium** (plus zinc, boron, sulfur)
  - N - P - K

Each company has various combinations.

Example: A 10-10-10 has 10% each of N-P-K

#### Manure
<table>
<thead>
<tr>
<th></th>
<th>% N</th>
<th>% P₂O₅</th>
<th>% K₂O</th>
<th>Cubic ft/ton</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goat</td>
<td>2.77</td>
<td>1.78</td>
<td>2.88</td>
<td>70</td>
</tr>
<tr>
<td>Dairy</td>
<td>.7</td>
<td>.30</td>
<td>.65</td>
<td>55</td>
</tr>
<tr>
<td>Steer</td>
<td>2.0</td>
<td>.54</td>
<td>1.92</td>
<td>70</td>
</tr>
<tr>
<td>Horse</td>
<td>.7</td>
<td>.34</td>
<td>.52</td>
<td>75</td>
</tr>
<tr>
<td>Sheep</td>
<td>2.0</td>
<td>1.00</td>
<td>2.50</td>
<td>70</td>
</tr>
<tr>
<td>Hog</td>
<td>1.0</td>
<td>.75</td>
<td>.85</td>
<td>60</td>
</tr>
</tbody>
</table>

**Indicates registered trade name**