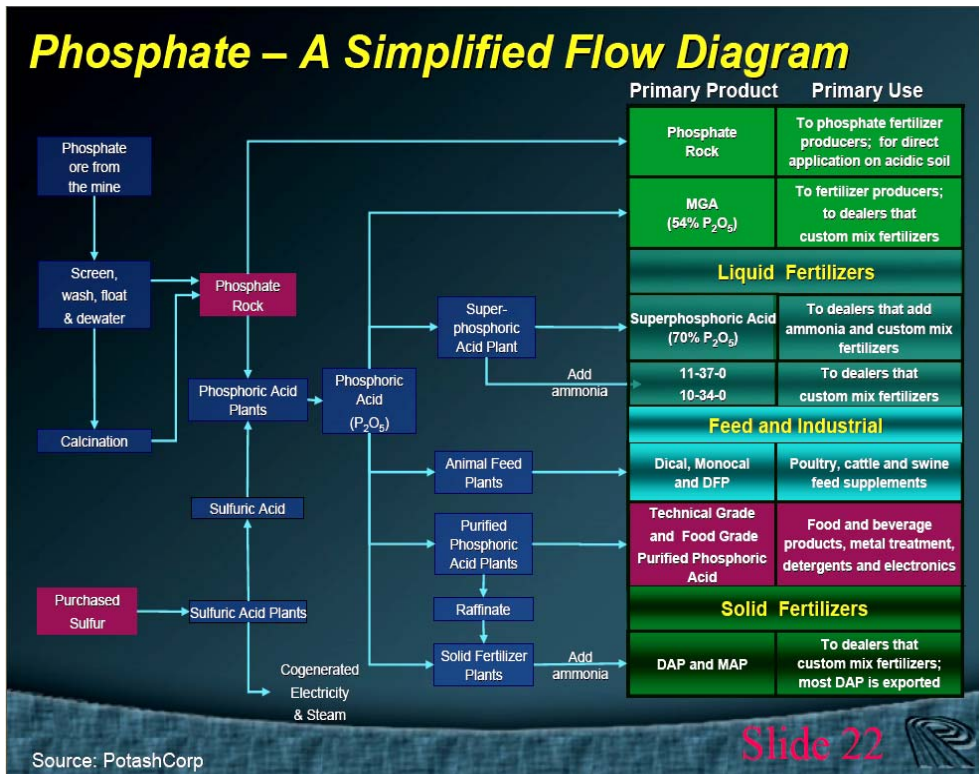
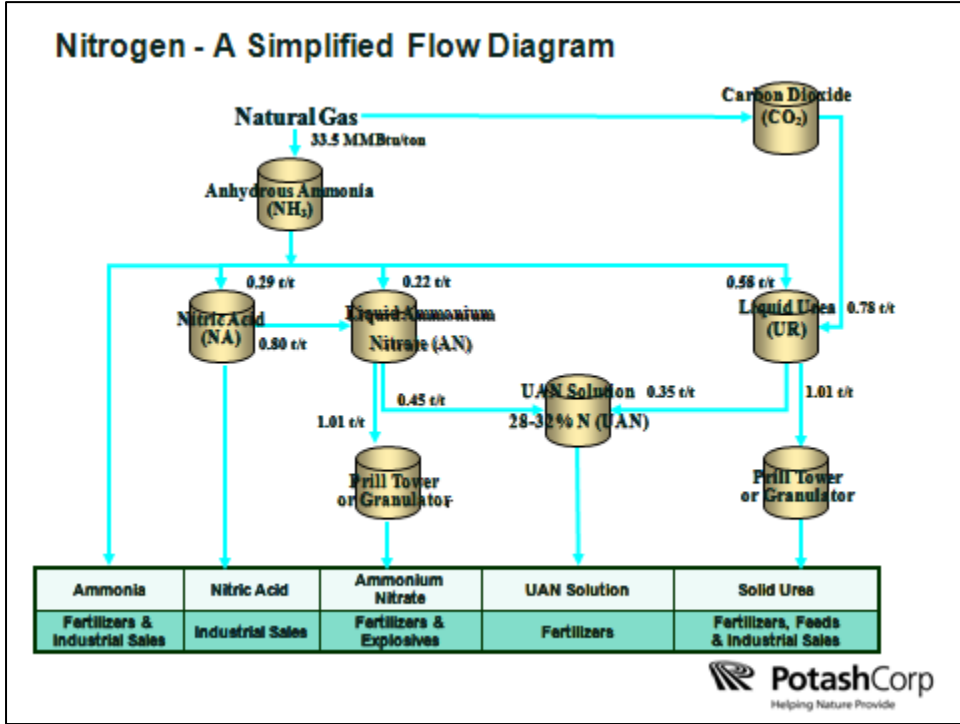


FERTILIZER MANUFACTURING

Kim Polizotto, PotashCorp



Rock Phosphate + Sulfuric acid \longrightarrow **Phosphoric Acid + Gypsum**

Phosphoric Acid + Anhydrous Ammonia \longrightarrow **MAP or DAP (18-46-0)**

Phosphoric Acid + Rock Phosphate \longrightarrow **TSP (46-0-0)**

Concentrated Phosphoric Acid + Anhydrous Ammonia \longrightarrow **APP (11-37-0)**



Dry shaft mining processes for KCl production

1. Ore containing KCl and NaCl is mined, brought to the surface and ground up
2. Reagents added in a brine to remove clays
3. Reagents added to attach to KCl crystals
4. KCl crystals floated to the surface in flotation cells
5. NaCl separated to tailings pile or put back under ground
6. KCl screened, compacted and rescreened to proper size

Solution mining process for KCl production

1. Saturated brine solution pumped under ground to put potash ore into a slurry
2. Clays and impurities removed with reagents
3. NaCl and KCl slurry put into evaporation ponds where there is differential settling of the two salts.
4. KCl is harvested from the ponds as dry crystals, sold as soluble grade or compacted and sized as granular material.



**PROCEEDINGS OF THE
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NORTH CENTRAL
EXTENSION-INDUSTRY
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Program Chair:

**John Lamb
University of Minnesota
St. Paul, MN 55108
(612) 625-1772
JohnLamb@umn.ed**

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**International Plant Nutrition Institute
2301 Research Park Way, Suite 126
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