MMSD Biosolids Program

- District Service Area
  - Population 378,000
- 34 – 36 million gallons of biosolids processed and stored annually
The Metrogro Program

- 3 – 6 million gallon storage tanks
- At peak of season:
  - 15 semi trailers hauling product to fields
The Metrogro Program

- Maximum haul distance is 35 miles from the treatment plant
- 14 of the 15 semi trailers are pulled by contract semi-trucks and drivers
The Metrogro Program

- All in-field applicators are operated by contract workers
- At peak of season:
  - 4 in-field applicators are operating throughout the countryside
The Metrogro Program

• Hauling seasons
  • Spring = April, May
  • Summer/Fall = end of July, August through freeze-up in November
The Metrogro Program

- MMSD Biosolids Products

<table>
<thead>
<tr>
<th>Product</th>
<th>Metrogro liquid Class B</th>
<th>Metrogro cake Class A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Solids</td>
<td>5.1% TS</td>
<td>24% TS</td>
</tr>
<tr>
<td>Amount Distributed 2018</td>
<td>33.5 million gal on nearly 4,400 acres</td>
<td>300 cu yds</td>
</tr>
<tr>
<td>Method of Distribution</td>
<td>Full Service provided by MMSD</td>
<td>Customer pick up and application</td>
</tr>
</tbody>
</table>
• Metrogro Cake
  • Class A Product
  • Currently trying out new ways to use material to make it more desirable to the end user
The Metrogro Program

• How is the land acquired for application?
  – Send out letters to past participants
    • 90% of land is acquired by farmers contacting us with an interest in the product
      – Metrogro is a clean product, little trash
      – Consistent nutrient content
      – We apply on their terms, for free
    • Other 10% is sought out through phone calls, stopping in field when harvesting, directed letters
      – Wheat fields, first fields off in fall
The Metrogro Program

- How is the land acquired for application?
  - Spring Yield Guarantee
    - Pay farmers to hold land for spring application
    - Payment is based on
      1. Acres held for application
      2. Crop the farmer plans to grow after application
         » Use corn and soybean prices the following fall
      3. Date of application -> determines how many bushel loss we pay them for
The Metrogro Program

• How do we deal with land transfers from treatment plant to treatment plant?
  – It’s based on the farmers wants and needs
    • The farmer has the ultimate say of what occurs on the land they operate, they decide who to accept product from
  – MMSD will work with other WWTP’s, very willing to transfer land to others when requested by the farmer
The Metrogro Program

• How do we get application information to farmers and agronomists?

  – We provide application information in two forms:
    1. WWTP numbers
       – Can be input into SnapPlus, but on their own it’s a foreign language to crop consultants
    2. Agronomic conversions
       – Can be used on the fly by an agronomist/crop consultant, it’s in their ‘language’

  – Need to do a better job of getting it to them in a more timely fashion, not mid to late winter
The Metrogro Program

• Current Opportunities?
  – The farm economy is in biosolids favor

• Current Challenges?
  – Distance to fields increases every year due to development
  – Increase in traffic
  – Phosphorus management
The Metrogro Program

- **Phosphorus Management**
  - Struvite Harvesting System
    - From 2013 to 2018 = 25% reduction in total P in biosolids
  - Land application
    - The Phosphorus Index
      - Tillage options for biosolids
      - Alternative biosolids products
The Metrogro Program

Madison Metropolitan Sewerage District
Questions?