Tutorial 5:
Making Commercial Fertilizer Applications using MMP
Fertilizer Applications using MMP

Under the Nutrient Management tab, double click on the box for field “Northwest 1” and month March 2006. This will bring up the Fertilizer Application Editor.
Fertilizer Applications

Click on the “New” button to begin your fertilizer application.
Fertilizer Applications

Next, select “Amount of One or More Nutrients” then click OK.
Fertilizer Applications

Enter exactly the N, P, & K recommended for the crop (120-90-210). Then, under Method, select “Surface broadcast/incorporate”. Then click on “Close”.

![Image of fertilizer application software interface]
Fertilizer Applications

Notice a ‘F’ now appears in the March 2006 box for field Northwest 1 indicating a fertilizer application has been made.
Fertilizer Applications

• We just scheduled to fertilize field ‘Northwest 1’ in March 2006. The fertilizer sources to obtain this N – P – K level will be determined later.

• Now, let’s schedule our next fertilizer application to this field, again in March, for 2007…
Fertilizer Applications

Double-click on the box for field ‘Northwest 1’ and month ‘March 2007’.
Fertilizer Applications

On the Fertilizer Application Editor click on the “New” button. Then select “Amount of One or More Nutrients”.

[Image of the Fertilizer Application Editor interface]

[Image of the New Fertilizer Application window with the option for Amount of One or More Nutrients highlighted]
Fertilizer Applications

Enter exactly the N, P, & K recommended again. Make sure to enter a ‘0’ for N (or P or K) instead of leaving it blank. This can affect tables that provide information on total field nutrient calculations.

Select “Surface Broadcast” since we are not applying N, there is no concern for nutrient loss to the air.

Click on “Close”. On the main screen notice the new ‘F’ scheduling another fertilizer application.
Fertilizer Applications

• Let’s schedule another fertilizer application to this field for next year’s corn crop (2008). Again, we will be making the application in March.
Fertilizer Applications

Scroll over and find the box for field ‘Northwest 1’ under March 2008. Double-click on the box.
Fertilizer Applications

This again brings up the Fertilizer Application Editor. Click on “New”. 
Fertilizer Applications

• Select “Fertilizer Nutrient Analysis and Application Rate”. We will make three separate entries, one for each fertilizer source.

• Click OK.
Fertilizer Applications

Enter 18-46-0 for diammonium phosphate. We need to specify the Form, which is ‘Dry’. The method is ‘Surface broadcast/incorporate’.
Fertilizer Applications

How much should we apply? Click on the “Calculate” button. This will bring up the ‘Fertilizer Application Rate Calculator’.
Fertilizer Applications

The target nutrient is P, so select P$_2$O$_5$ and select ‘1 crop year’ for amount of nutrient to apply. We are told this rate results in 184 LBS of 18-46-0 being applied. Click on ‘Accept’.
Fertilizer Applications

To make another entry (for potash), click on “New”. Again, select ‘Fertilizer Nutrient Analysis and Application Rate’.
Fertilizer Applications

Let’s schedule a potash application (0-0-62) just like we did in the previous example (diammonium phosphate). Fill in the form (as shown below) and click on the ‘Calculate’ button.
Fertilizer Applications

The target nutrient is now K, so select K2O, and apply for just one year of crop. Accept the 121 LBS of potash calculated.
Fertilizer Applications

To make another entry (for nitrogen), click on “New”. Again, select ‘Fertilizer Nutrient Analysis and Application Rate’.
Fertilizer Applications

This time we will apply urea (46-0-0). Fill in the form (as shown below) and click on the ‘Calculate’ button.
Fertilizer Applications

The target nutrient is now N, and apply for just one year of crop. Accept the 221 LBS of N calculated.
Fertilizer Applications

When you are finished with the calculations, click on ‘Close’. You will now notice a ‘F’ for your fertilizer application on the main MMP screen.
Fertilizer Applications

• Want some more practice? Go to March 2009 and do a fertilizer application just like we did in 2007. Then go to March 2010 and do the same for corn.

When you are done, we will start on our next field, Northeast 2.
Fertilizer Applications

Double-click on the ‘Northeast 2’ box under March 2006
Fertilizer Applications

Click “New” on the Fertilizer Application Editor. Then select ‘Fertilizer Nutrient Analysis and Application Rate’ and click OK.

We will make two separate entries, one for each fertilizer source.
Fertilizer Applications

Let’s schedule a potash application (0-0-62) surface broadcast and click on ‘Calculate’.
Fertilizer Applications

It is common to apply enough phosphorous and/or potassium to serve the crop requirements for a number of years. So let's select 5 years and target $K_2O$. Then Accept the 967 Lb/A rate.
Fertilizer Applications

- Repeat the previous steps (for the field ‘Northwest 2’ in March 2006) using Superphosphate (0-21-0) and accept the 809 Lb/A calculation for 5 years.

- We now have applied enough P and K for the 5 years of our plan.
Fertilizer Applications

Next, we need to apply N for the fall wheat planting. Go to the main MMP screen (under the Nutrient Management tab) and double-click on the box for field ‘Northeast 2’ under October 2006.

Click on “New” to start a new fertilizer application. Then select ‘Fertilizer Nutrient Analysis and Application Rate’.
Fertilizer Applications

Notice the crop is soybeans. That is our planned (primary) crop for 2007. The N is for the wheat which is considered a cover crop or first crop.
Fertilizer Applications

Click on the “New” button. Schedule an application of 100 Lb/A of urea (46-0-0), surface broadcast/incorporated, which is about 1/3 of the wheat requirements. Click on “Close” to finish.
Fertilizer Applications

Now let’s double-click on the box for field ‘Northwest 2’ and February 2007 to open the Fertilizer Application Editor. Schedule an application of dry ammonia nitrate (33-0-0), surface broadcast. Then click on “Calculate”.

![Fertilizer Application Editor](image-url)
Fertilizer Applications

The nutrient target is N; notice that you cannot select multiple year application when N is targeted. Accept the 178 Lb/A calculation.
Fertilizer Applications

Our soybean crop does not require any nutrients, so proceed to next spring.

Let’s make three applications of fertilizer for corn. For March 2008, let’s schedule an application of 50 Lb/A of anhydrous (82-0-0) injected. Although anhydrous is a liquid, it is generally sold in pounds, so select ‘Dry’ as the form. Liquid form changes the units to gallons/acre. Click “Close” to finish.
For April 2008, let’s include a common starter fertilizer at planting (10-34-0). Select ‘Liquid’ and enter 6 Gal/A as the rate. The method of application is ‘Row starter with seed’.
Fertilizer Applications

For June 2008, let’s side dress with our remaining nitrogen needs, using anhydrous again (82-0-0). To determine the remaining needs click ‘Calculate’, and accept the 106 Lb/A rate.
Fertilizer Applications

Don’t do anymore applications to this field. Next we will learn how to duplicate fertilizer applications on field ‘Southeast 3’.

First, double-click on field ‘Southeast 3’ under February 2006 and bring up the Fertilizer Application Editor. Notice ‘Cool Season Grass Hay 06’ is our crop.
Fertilizer Applications

Let’s surface broadcast potash (0-0-62) for 3 years. The calculated rate should be 492 Lb/A. The phosphorous recommended is so small we’ll skip it.
Fertilizer Applications

Bring up the Fertilizer Application Editor for March 2006 on the same field. Let’s apply about 60% of our nitrogen recommended. Use ammonia nitrate (33-0-0) dry, surface broadcast, and enter 224 Lb/A as the rate.
Fertilizer Applications

We’ll have a similar nitrogen need in this field next year, and for field ‘Northeast 2’ in 2009 and 2010. The ‘Duplicate’ button makes this easy. Click on it.
Fertilizer Applications

Note there are several ways to duplicate applications. For our purpose, select ‘All Fields with the Same Crop’ and check the box for ‘Duplicate in Future Years Too’.
Fertilizer Applications

Let’s make our second nitrogen application: bring up the Fertilizer Application Editor for August 2006. Let’s apply dry ammonia nitrate (33-0-0) surface broadcast and calculate the rate to apply. Accept the 139 Lb/A rate.
Fertilizer Applications

Duplicate the application for future years for this crop. This field has had nitrogen fertilizer scheduled for 2007 as well as the cool season grass hay crop in field ‘Northeast 2’ for 2009 and 2010.
Fertilizer Applications

Note in the upper right corner the ‘Details’ button on the Fertilizer Application Editor. Click on it and you’ll be able to view information about this field’s nutrient status. See next slide…
**Fertilizer Applications**

Nutrient Status Details for field ‘Southeast 3’.

![Field Nutrient Status Details](image)

<table>
<thead>
<tr>
<th>Year</th>
<th>Field ID</th>
<th>Sub ID</th>
<th>Nutrient Needs</th>
<th>Crop</th>
<th>Yield Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>Southeast</td>
<td>3</td>
<td>Crop Fertilizer Recs</td>
<td>Cool season grass hay</td>
<td>3 Ton</td>
</tr>
<tr>
<td>2006</td>
<td>Southeast</td>
<td>3</td>
<td>Crop Nutrient Removal</td>
<td>Cool season grass hay</td>
<td>3 Ton</td>
</tr>
<tr>
<td>2006</td>
<td>Southeast</td>
<td>3</td>
<td>Fertilizer App (3-yr K)</td>
<td>0-0-62</td>
<td>Surface broadcast</td>
</tr>
<tr>
<td>2006</td>
<td>Southeast</td>
<td>3</td>
<td>Fertilizer App</td>
<td>33-0-0</td>
<td>Surface broadcast</td>
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<tr>
<td>2006</td>
<td>Southeast</td>
<td>3</td>
<td>Fertilizer App (1-yr N)</td>
<td>33-0-0</td>
<td>Surface broadcast</td>
</tr>
<tr>
<td>2007</td>
<td>Southeast</td>
<td>3</td>
<td>Total Nutrients Applied</td>
<td>Spreadable Area</td>
<td>3 Ton</td>
</tr>
<tr>
<td>2007</td>
<td>Southeast</td>
<td>3</td>
<td>Balance After Recs</td>
<td>Spreadable Area</td>
<td>3 Ton</td>
</tr>
<tr>
<td>2007</td>
<td>Southeast</td>
<td>3</td>
<td>Balance After Removal</td>
<td>Spreadable Area</td>
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<td>3</td>
<td>Fertilizer App</td>
<td>33-0-0</td>
<td>Surface broadcast</td>
</tr>
</tbody>
</table>
Fertilizer Applications

That concludes the tutorial for making fertilizer applications using MMP. We encourage you to practice entries for 2009 and 2010, continuing with field ‘Southeast 3’, as well as fields ‘South 4’ and ‘West 5’. Then look at our completed plan. We have incorporated several different fertilizer sources into this plan.

THE END