

Projected Soil P & K Levels
Birchen Farms INC.

| Field Name | Acres | Current Soil Test | | Change in Test | | Projected Soil Test | | Time to Reach 300 lbs/ac |
|----------------------|--------|-------------------|-----|----------------|------|---------------------|------|--------------------------|
| | | P | K | P | K | P | K | |
| Asche | 76.62 | 59 | 229 | -6 | -67 | 53 | 162 | -168 |
| Church | 42.43 | 84 | 423 | -8 | -97 | 76 | 326 | -108 |
| Dairy | 162.75 | -- | -- | 0 | -159 | -- | -- | -- |
| Hasken | 11.07 | 0 | 0 | -28 | -302 | -28 | -302 | -43 |
| Hershey | 66.87 | 26 | 306 | -19 | -208 | 7 | 98 | -58 |
| Huttenlocher | 67.49 | 82 | 334 | 2 | -55 | 84 | 279 | 521 |
| Musser North | 60.99 | 128 | 593 | -15 | -115 | 113 | 478 | -46 |
| Musser Middle | 75.15 | 86 | 479 | -11 | -150 | 75 | 329 | -81 |
| Musser South | 60.15 | 55 | 267 | -5 | -74 | 50 | 193 | -178 |
| Rod's Home East | 36 | 142 | 468 | -6 | -67 | 136 | 401 | -110 |
| Rod's Home West | 16 | 142 | 468 | 12 | 28 | 154 | 496 | 53 |
| Rod's North of Creek | 48.39 | 142 | 468 | -6 | -69 | 136 | 399 | -105 |
| Shester | 97.24 | 20 | 343 | -21 | -218 | -1 | 125 | -53 |
| Schleuning | 30.44 | 0 | 0 | -18 | -106 | -18 | -106 | -66 |
| South Ridge | 83.72 | 58 | 237 | -1 | -12 | 57 | 225 | -867 |

Change in Soil Test = Crop uptake for 2007-2010 - Nutrients applied to field for 2007-2010 in manure

9 lbs P required to change soil test 1 lb

4 lbs K required to change soil test 1 lb

Projected levels are based on planned crop rotations and planned manure applications.

Add notes regarding special notes on fields here

Birchen Farms INC.
Supplemental Nutrients
Crop Year 2011

Recommended Supplemental Nutrients if No Manure is Applied

| Field Name | Acres | Crop | Yield | lbs N/ac | lbs P2O5 for Maintenance | lbs P2O5 for Buildup * | lbs K2O for Maintenance | lbs K2O for Buildup ** |
|----------------------|-------|--------------|-------|----------|--------------------------|------------------------|-------------------------|------------------------|
| Asche | 80.02 | Corn | 180 | 216 | 77 | 0 | 50 | 31 |
| Church | 42.43 | Alfalfa | 7 | 0 | 0 | 0 | 0 | 0 |
| Dairy | 167.7 | Alfalfa | 7 | 0 | 0 | 0 | 350 | 0 |
| Hasken | 11.07 | Alfalfa | 7 | 0 | 84 | 101 | 350 | 260 |
| Hershey | 73.87 | Oat/ Alfalfa | 60 | 60 | 23 | 43 | 12 | 0 |
| Huttenlocher | 67.49 | Alfalfa | 7 | 0 | 0 | 0 | 350 | 0 |
| Musser North | 66.69 | Corn | 180 | 216 | 0 | 0 | 0 | 0 |
| Musser Middle | 75.15 | Alfalfa | 7 | 0 | 0 | 0 | 0 | 0 |
| Musser South | 60.15 | Silage | 30 | 180 | 78 | 0 | 210 | 0 |
| Rod's Home East | 45 | Corn | 180 | 216 | 0 | 0 | 0 | 0 |
| Rod's Home West | 25 | Silage | 30 | 180 | 78 | 0 | 0 | 0 |
| Rod's North of Creek | 66.39 | Corn | 180 | 216 | 0 | 0 | 0 | 0 |
| Shester | 97.24 | Oat/ Alfalfa | 60 | 60 | 23 | 56 | 12 | 0 |
| Schleuning | 30.44 | Alfalfa | 7 | 0 | 84 | 101 | 350 | 260 |
| South Ridge | 83.72 | Silage | 30 | 180 | 78 | 0 | 210 | 23 |

Crop Year 2012

Recommended Supplemental Nutrients if No Manure is Applied

| Field Name | Acres | Crop | Yield | lbs N/ac | lbs P2O5 for Maintenance | lbs P2O5 for Buildup * | lbs K2O for Maintenance | lbs K2O for Buildup ** |
|----------------------|-------|--------------|-------|----------|--------------------------|------------------------|-------------------------|------------------------|
| Asche | 80.02 | Oat/ Alfalfa | 60 | 60 | 23 | 0 | 12 | 31 |
| Church | 42.43 | Alfalfa | 7 | 0 | 0 | 0 | 0 | 0 |
| Dairy | 167.7 | Alfalfa | 7 | 0 | 0 | 0 | 350 | 0 |
| Hasken | 11.07 | Alfalfa | 7 | 0 | 84 | 101 | 350 | 260 |
| Hershey | 73.87 | Alfalfa | 7 | 0 | 84 | 43 | 350 | 0 |
| Huttenlocher | 67.49 | Silage | 30 | 180 | 0 | 0 | 210 | 0 |
| Musser North | 66.69 | Oat/ Alfalfa | 60 | 60 | 0 | 0 | 0 | 0 |
| Musser Middle | 75.15 | Alfalfa | 7 | 0 | 0 | 0 | 0 | 0 |
| Musser South | 60.15 | Silage | 30 | 180 | 78 | 0 | 210 | 0 |
| Rod's Home East | 45 | Oat/ Alfalfa | 60 | 60 | 0 | 0 | 0 | 0 |
| Rod's Home West | 25 | Silage | 30 | 180 | 78 | 0 | 0 | 0 |
| Rod's North of Creek | 66.39 | Oat/ Alfalfa | 60 | 60 | 0 | 0 | 0 | 0 |
| Shester | 97.24 | Alfalfa | 7 | 0 | 84 | 56 | 350 | 0 |
| Schleuning | 30.44 | Silage | 30 | 180 | 78 | 101 | 210 | 260 |
| South Ridge | 83.72 | Corn | 180 | 216 | 77 | 0 | 50 | 23 |

Crop Year 2013

Recommended Supplemental Nutrients if No Manure is Applied

| Field Name | Acres | Crop | Yield | lbs N/ac | lbs P2O5 for Maintenance | lbs P2O5 for Buildup * | lbs K2O for Maintenance | lbs K2O for Buildup ** |
|----------------------|-------|--------------|-------|----------|--------------------------|------------------------|-------------------------|------------------------|
| Asche | 80.02 | Alfalfa | 7 | 0 | 84 | 0 | 350 | 31 |
| Church | 42.43 | Silage | 30 | 180 | 0 | 0 | 0 | 0 |
| Dairy | 167.7 | Alfalfa | 7 | 0 | 0 | 0 | 350 | 0 |
| Hasken | 11.07 | Alfalfa | 7 | 0 | 84 | 101 | 350 | 260 |
| Hershey | 73.87 | Alfalfa | 7 | 0 | 84 | 43 | 350 | 0 |
| Huttenlocher | 67.49 | Silage | 30 | 180 | 0 | 0 | 210 | 0 |
| Musser North | 66.69 | Alfalfa | 7 | 0 | 0 | 0 | 0 | 0 |
| Musser Middle | 75.15 | Silage | 30 | 180 | 0 | 0 | 0 | 0 |
| Musser South | 60.15 | Oat/ Alfalfa | 0 | 60 | 23 | 0 | 12 | 0 |
| Rod's Home East | 45 | Alfalfa | 7 | 0 | 0 | 0 | 0 | 0 |
| Rod's Home West | 25 | Silage | 30 | 180 | 0 | 0 | 0 | 0 |
| Rod's North of Creek | 66.39 | Alfalfa | 7 | 0 | 0 | 0 | 0 | 0 |
| Shester | 97.24 | Alfalfa | 7 | 0 | 84 | 56 | 350 | 0 |
| Schleuning | 30.44 | Corn | 180 | 216 | 77 | 101 | 50 | 260 |
| South Ridge | 83.72 | Oat/ Alfalfa | 60 | 60 | 23 | 0 | 12 | 23 |

Crop Year 2014

Recommended Supplemental Nutrients if No Manure is Applied

| Field Name | Acres | Crop | Yield | lbs N/ac | lbs P2O5 for Maintenance | lbs P2O5 for Buildup * | lbs K2O for Maintenance | lbs K2O for Buildup ** |
|----------------------|-------|--------------|-------|----------|--------------------------|------------------------|-------------------------|------------------------|
| Asche | 80.02 | Alfalfa | 7 | 0 | 84 | 0 | 350 | 31 |
| Church | 42.43 | Corn | 180 | 216 | 0 | 0 | 0 | 0 |
| Dairy | 167.7 | Alfalfa | 7 | 0 | 0 | 0 | 350 | 0 |
| Hasken | 11.07 | Alfalfa | 7 | 0 | 84 | 101 | 350 | 260 |
| Hershey | 73.87 | Alfalfa | 7 | 0 | 84 | 43 | 350 | 0 |
| Huttenlocher | 67.49 | Silage | 30 | 180 | 0 | 0 | 210 | 0 |
| Musser North | 66.69 | Alfalfa | 7 | 0 | 0 | 0 | 0 | 0 |
| Musser Middle | 75.15 | Silage | 30 | 180 | 0 | 0 | 0 | 0 |
| Musser South | 60.15 | Alfalfa | 7 | 0 | 84 | 0 | 350 | 0 |
| Rod's Home East | 45 | Alfalfa | 7 | 0 | 0 | 0 | 0 | 0 |
| Rod's Home West | 25 | Silage | 30 | 180 | 0 | 0 | 0 | 0 |
| Rod's North of Creek | 66.39 | Alfalfa | 7 | 0 | 0 | 0 | 0 | 0 |
| Shester | 97.24 | Alfalfa | 7 | 0 | 84 | 56 | 350 | 0 |
| Schleuning | 30.44 | Oat/ Alfalfa | 60 | 60 | 23 | 101 | 12 | 260 |
| South Ridge | 83.72 | Alfalfa | 7 | 0 | 84 | 0 | 350 | 23 |

* Buildup is based on buildup applications applied over a 4 year period. So, buildup =(9(Desired soil test - Actual soil test))/4

** Buildup is based on buildup applications applied over a 4 year period. So, buildup = (4(Desired soil test - Actual soil test))/4