2013 WhiteTail Deer Food Preference Plots

Del Voight- Penn State Extension
Hunter Voight- Senior Project Coordinator
Introduction

- Food Plot 4 Soil Management
  - Soil Test
  - Topdress
- Establishment
  - Plot Layout
  - Treatments
- Spring Data collection
- Fall Data Collection
- Conclusion
**Site Location**

- White Deer Camp 450 acres mountain
- South Mountain Camp 1900 acres mountain Same results not data due to bear ripping out exclusion fence in fall and spring.
- Landisville Research Farm along Chicques Creek. No data no consumption of any forage due to location near Intense Ag area.

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South Mountain

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Landisville Experimental Station
No consumption Spring or Fall

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## Soil Test

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### SOIL TEST REPORT FOR:

**PAUL REBARCHAK**  
731 BRUSH VALLEY RD  
BOALSBURG, PA 16827

### ADDITIONAL COPY TO:

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<table>
<thead>
<tr>
<th>DATE</th>
<th>LAB #</th>
<th>SERIAL #</th>
<th>COUNTY</th>
<th>ACRES</th>
<th>ASCS ID</th>
<th>FIELD ID</th>
<th>SOIL</th>
</tr>
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<tbody>
<tr>
<td>12/05/2013</td>
<td>S13-16896</td>
<td></td>
<td>Centre</td>
<td></td>
<td></td>
<td>FP4</td>
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### SOIL NUTRIENT LEVELS

<table>
<thead>
<tr>
<th>Nutrient</th>
<th>Level</th>
<th>Value (ppm)</th>
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</thead>
<tbody>
<tr>
<td>Soil pH</td>
<td>Below Optimum</td>
<td>6.8</td>
</tr>
<tr>
<td>Phosphorus (P)</td>
<td>Optimum</td>
<td>19</td>
</tr>
<tr>
<td>Potassium (K)</td>
<td>Below Optimum</td>
<td>109</td>
</tr>
<tr>
<td>Magnesium (Mg)</td>
<td>Above Optimum</td>
<td>72</td>
</tr>
</tbody>
</table>

### RECOMMENDATIONS:

- **Limestone**: NONE
- **Magnesium (Mg)**: NONE

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### Plant Nutrients:

*If manure will be applied, adjust these recommendations accordingly.*  
See back of report.

<table>
<thead>
<tr>
<th>Year</th>
<th>Crop</th>
<th>Expected Yield</th>
<th>Nitrogen (lb N/A)</th>
<th>Phosphate (lb P2O5/A)</th>
<th>Potash (lb K2O/A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Wildlife Food Plot</td>
<td>0</td>
<td>See Below</td>
<td>50</td>
<td>20</td>
</tr>
</tbody>
</table>

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Nitrogen (N) recommendations: For non-legumes such as corn, small grains, grasses, brassicas, etc. or for mixtures that contain substantial amounts of non-legumes, apply 75 lb N/A at planting time. Up to 20 lb/A of the recommended N can be applied with a similar amount of phosphorus (P) and potassium (K) at seeding as a starter fertilizer. On poor soils with low fertility and low organic matter levels or on highly productive soils where higher yield is desired, increase the rate to 75-100 lb N/A. When following a legume the previous year or if manure is applied, reduce the rate to 50-75 lb N/A. For legumes such as Alfalfa, Clover, Trefol, or Soybeans or mixtures that are largely legumes, no N should be applied. Be sure to properly inoculate legume seed before planting.
Top Dress

- 10-20-10 200lbs/acre disced in April
- 10-20-10 200lbs/acre June Application

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Establishment
Plot Layout

Randomized Complete Block Design 3 Replications

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Seed Rates based on Chart

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Spring Treatment Specifics

- Cardinal Mammoth Red Clover 10lb/acre
- *Jumbo II* Improved White Clover 4lb/acre
- *Oasis* Chicory 8lb/acre
- *Rodeo* Forage Oats 60lb/acre

Planted 4/6/2013

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Seed Removed between Treatments

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Seeding Process

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1 Month After Planting

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Exclusion Fence

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Legume Options

Arrest – Grass Only

Pursuit/Slay – Grass and broadleaf

Butyric 200
Broadleaf only

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2 Months After Planting

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Harvesting of Inside and Outside of Exclusion Fence

<table>
<thead>
<tr>
<th>Forage Planted</th>
<th>EXCLUDED</th>
<th>FREE CHO</th>
<th>YLD DIFF</th>
<th>%DIFF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trt No. Name</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Red Clover (Standard)</td>
<td>0.590a</td>
<td>0.102b</td>
<td>0.488a</td>
<td>82.148a</td>
</tr>
<tr>
<td>2 White Clover</td>
<td>0.947a</td>
<td>0.226b</td>
<td>0.713a</td>
<td>74.092a</td>
</tr>
<tr>
<td>3 Chicory</td>
<td>0.481a</td>
<td>0.121b</td>
<td>0.359a</td>
<td>70.863a</td>
</tr>
<tr>
<td>4 Oats</td>
<td>0.892a</td>
<td>1.281a</td>
<td>0.000b</td>
<td>2.914b</td>
</tr>
</tbody>
</table>

LSD (P=.10) 0.2176t 1.7454t 0.4558t 2.7227t
Standard Deviation 0.1371t 1.1002t 0.2873t 1.7162t
CV 12.42 33.72 34.74 24.5

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Graphic of the total amount of vegetation consumed by Deer in Spring

Take Home:
Deer did not touch Oats
Preferred Red Clover

Percent Disappearance of Forage between Inside and Outside of Exclusion Fence

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Fall Treatments

- Cardinal Mammoth Red Clover 10lb/acre
- Jumbo II Improved White Clover 4lb/acre
- Chicory 8lb/acre
- 8/23 Jerry Oats 60lb/acre
- 8/23 Purple Top Turnips – 2lb/acre
- 8/23 Groundhog Radish – 4lb/acre
Fall Growth Visual Comparison
Chicory and R Clover

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W Clover and Oats
Radish

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Turnips

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Harvest 11/3/13

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## Fall Deer Preference

<table>
<thead>
<tr>
<th>Trt</th>
<th>Treatment</th>
<th>DM in Cage</th>
<th>DM Outside Cage</th>
<th>DM Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Red Clover</td>
<td>0.79 c</td>
<td>0.05 a</td>
<td>0.744 c</td>
</tr>
<tr>
<td>2</td>
<td>White Clover</td>
<td>0.752 c</td>
<td>0.05 a</td>
<td>0.71 c</td>
</tr>
<tr>
<td>3</td>
<td>Chicory</td>
<td>3.352 c</td>
<td>0 a</td>
<td>3.775 b</td>
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<tr>
<td>4</td>
<td>Oats</td>
<td>3.327 b</td>
<td>0.033 a</td>
<td>3.304 b</td>
</tr>
<tr>
<td>5</td>
<td>Turnips</td>
<td>0.616 c</td>
<td>0.332 a</td>
<td>0.298 c</td>
</tr>
<tr>
<td>6</td>
<td>Radish</td>
<td>7.39 a</td>
<td>0.92 a</td>
<td>6.351 a</td>
</tr>
<tr>
<td></td>
<td>LSD (P=.10)</td>
<td>2.4050t</td>
<td>0.3038t</td>
<td>0.4495t</td>
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</tbody>
</table>
Disappearance of Forage

Percent Disappearance of Forage between Inside and Outside Caged Areas

<table>
<thead>
<tr>
<th>Plant</th>
<th>Disappearance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red Clover</td>
<td>93.67</td>
</tr>
<tr>
<td>White Clover</td>
<td>93.35</td>
</tr>
<tr>
<td>Chicory</td>
<td>100.00</td>
</tr>
<tr>
<td>Oats</td>
<td>99.01</td>
</tr>
<tr>
<td>Turnips</td>
<td>46.10</td>
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<tr>
<td>Radish</td>
<td>87.55</td>
</tr>
</tbody>
</table>

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Take home:
All Forage removed in Fall
no observable preference.
Tubers were eaten as well.
Conclusion

• Spring Deer appear to be more selective in their food preference with clovers at the top of the menu. Oats did not get consumed.

• Fall Deer appeared to be non selective and consumed all offered forages

• Chicory performed well with one seeding providing acceptable preference in spring and fall as did both clover species

• Ag Locations are not ideal for food plots
Thank you for your attention!

Delbert G. Voight, Jr./ Hunter Voight
Lebanon County
Cooperative Extension

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