Cover Crop Evaluation in NW Minnesota
Kittson (K) - Marshall (M) - Roseau (R) Counties

Cooperator: (K) Rob and Tim Rynning (M) Todd Stanley (R) Braaten Farms
Nearest Town: (K) Kennedy (M) Grygla (R) Roseau
Soil Type: (K) Sandy Loam (M) Clay loam (R) Loam
Tillage: (K) Cultivated 2x (M) Cultivated 1x (R) Cultivated 1x
Previous Crop: (K) wheat (M) wheat (R) fallow
Planting Date: (K) May 14, 2003 (M) May 2, 2003 (R) May 2, 2003
Row Width: 6 inches
Fertilizer: Plots were fertilized for canola production.
Experimental Design: Randomized complete block with 2 replications at three locations

<table>
<thead>
<tr>
<th>Crop</th>
<th>Biomass(^1) 23-Jun (lb/a)</th>
<th>Biomass(^1) 28-Jul (lb/a)</th>
<th>Biomass(^2) 20-Aug-01 (lb/a)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austrian Pea(^3)</td>
<td>3064</td>
<td>8175</td>
<td>3819</td>
</tr>
<tr>
<td>Dry Field Pea</td>
<td>3857</td>
<td>6258</td>
<td>5736</td>
</tr>
<tr>
<td>Chickling Vetch</td>
<td>2508</td>
<td>5649</td>
<td>5382</td>
</tr>
<tr>
<td>Hairy Vetch</td>
<td>1630</td>
<td>4306</td>
<td>4564</td>
</tr>
<tr>
<td>LSD (0.05)</td>
<td>676</td>
<td>1642</td>
<td>863</td>
</tr>
</tbody>
</table>

\(^1\) Biomass is above ground dry matter
\(^2\) Details in On-Farm Cropping Trials booklet, Jan 2002, page 8.
\(^3\) Austrian Pea: Annual, common austrian pea. Late maturing, long vines.
Dry Field Pea: ‘Swing’ semi leaf-less, short statured pea.
Chickling Vetch: AC Greenfix, annual.
Hairy Vetch: Biannual, common hairy vetch.

Purpose of Study:
Some producers are interested in a cover crop, which can add organic matter and nitrogen to the system, or there are times when producers may not get their main crop seeded and want to plant a cover crop instead of leaving the land fallow. This study compared a number of cover crops which chickling vetch, which is a relatively new annual cover crop in our region. This vetch was developed in Canada. Two sampling dates were used.

Results:
Dry field pea produced the largest amount of biomass at the June sampling date. The later maturing, long vined Austrian pea was able to continue its growth and provided the largest total biomass at the second sampling date. Part of the biomass was the maturing seed. Dry field pea was nearing maturity (produced seed). Chickling vetch produced more biomass in the first part of the season compared with hairy vetch. Hairy vetch was still actively growing at the second sampling date whereas chickling vetch started to mature and complete seed fill.

For additional information:
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