**Introduction**

Ewe mineral consumption in MT
- 0.5 to 1 oz/mineral daily
- Annual cost of $4.49/ewe (Kott, 2005)

**Justification**

No literature on individual mineral intake or variation in mineral intake in sheep

**Objective**

Determine if feeding method of pea-barley forage (swath grazing or hay in confinement) had an effect on individual ewe mineral consumption

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**Materials and Methods**

- Two year period: 2010 to 2011
- 60 mature ewes
- MSU’s Fort Ellis Research Station
- 3 confinement pens
- Fed baled hay
- 3 pea-barley pastures
- 0.35 acres each
- Grazed swath
- Ad libitum access to water, pea-barley hay/forage and mineral
- Markers
  - Titanium Dioxide (TiO$_2$)
  - Chromic Oxide (Cr$_2$O$_3$)
- Digestibility
  - In vitro technique

**Forage Results**

- Forage Production
  - 2010= 6425 lb/acre
  - 2011= 7980 lb/acre
- Forage DMI
  - No difference between treatments ($P = 0.40$)
  - Average 5.93 lb/day

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**Mineral Results**

- Year x Treatment interaction for mean mineral supplement DMI and supplement DMI CV, % ($P = 0.05$)
- DMI CV, % was greater for the confinement treatment in 2010 and 2010 ($P < 0.04$)
- Mean mineral intake was highest by grazing ewes in 2010 and 2011 ($P < 0.01$)

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**Implications**

- Knowledge of mineral intake can aid in formulating sheep mineral rations
- Basis for further research on understanding sheep mineral intake
- Mineral intake ranged from 3% to 24% greater than the target intake
- Consumption was more than recommended by NRC and mineral manufacturer

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**Composition of mineral supplement with a target intake of 0.2 oz/day**

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium</td>
<td>13.0%</td>
</tr>
<tr>
<td>Phosphorus</td>
<td>12.0%</td>
</tr>
<tr>
<td>Salt</td>
<td>11.75%</td>
</tr>
<tr>
<td>Magnesium</td>
<td>3.0%</td>
</tr>
<tr>
<td>Cobalt</td>
<td>4 ppm</td>
</tr>
<tr>
<td>Copper</td>
<td>7 ppm</td>
</tr>
<tr>
<td>Iodine</td>
<td>100 ppm</td>
</tr>
<tr>
<td>Manganese</td>
<td>1,800 ppm</td>
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<tr>
<td>Selenium</td>
<td>19.0 ppm</td>
</tr>
<tr>
<td>Zinc</td>
<td>2,000 ppm</td>
</tr>
<tr>
<td>Vit. A</td>
<td>250,000 IU/lb</td>
</tr>
<tr>
<td>Vit. D</td>
<td>25,000 IU/lb</td>
</tr>
<tr>
<td>Vit. E</td>
<td>500 IU/lb</td>
</tr>
</tbody>
</table>

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Thank you to the Bair Ranch Foundation, the USDA 5 State Ruminant Consortium, USDA CAR, and the Montana Agricultural Experiment Station for financial support.