THE CHEMICAL COMPOSITION OF YELLOW ROCKET (Barbarea vulgaris)

First cuttings of hay or hay-crop silage from areas which are infested with yellow rocket, (Barbarea vulgaris), frequently contain high percentages of this weed. It thus became of interest to determine the value of such materials as measured by chemical composition.

Twenty plants were taken at random from one field of first-year seeding of a mixture of clover, alfalfa, and timothy weekly for a period of 7 weeks from May 5, 1954 to June 21, 1954. Samples were oven dried and ground for analysis. Dates and stages of growth at time of sampling are shown in Table 1. Chemical composition and percent dry weight are given in Table 2.

These results indicate relatively fair quality roughage value for yellow rocket. The data show yellow rocket to be high in protein and low in crude fiber in the early stages of growth, but a rather rapid reversal occurs as the plant matures. It would thus appear that early cutting is more advantageous from the standpoint of nutrient value.

Table 1.—Dates and stages of growth at time of sampling of seven samples of yellow rocket.

<table>
<thead>
<tr>
<th>Sample No.</th>
<th>Date</th>
<th>Stage of growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>May 5, 1954</td>
<td>Early bud stage, no flowers open. Plants 1½ feet tall, basal leaves still green.</td>
</tr>
<tr>
<td>2</td>
<td>May 12, 1954</td>
<td>¹/₃ flower stage. Plants 2 feet tall. Basal leaves starting to yellow.</td>
</tr>
<tr>
<td>3</td>
<td>May 20, 1954</td>
<td>Full bloom, no pods formed. Inflorescence starting to elongate.</td>
</tr>
<tr>
<td>5</td>
<td>June 5, 1954</td>
<td>Full pod stage with few stem leaves present.</td>
</tr>
<tr>
<td>6</td>
<td>June 11, 1954</td>
<td>Seed pods still green. Seeds not completely developed.</td>
</tr>
<tr>
<td>7</td>
<td>June 21, 1954</td>
<td>Seed pods still green. Seeds not completely developed.</td>
</tr>
</tbody>
</table>

Table 2.—Chemical composition of seven samples of yellow rocket (dry matter basis).

<table>
<thead>
<tr>
<th>Sample No.</th>
<th>P*</th>
<th>Ca*</th>
<th>K*</th>
<th>Protein†</th>
<th>Moisture†</th>
<th>Ether extract†</th>
<th>Crude fibre†</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.53</td>
<td>0.53</td>
<td>3.82</td>
<td>23.4</td>
<td>3.8</td>
<td>2.8</td>
<td>20</td>
</tr>
<tr>
<td>2</td>
<td>0.48</td>
<td>0.63</td>
<td>3.31</td>
<td>19.7</td>
<td>2.4</td>
<td>2.5</td>
<td>24</td>
</tr>
<tr>
<td>3</td>
<td>0.34</td>
<td>0.72</td>
<td>2.19</td>
<td>15.4</td>
<td>3.2</td>
<td>2.4</td>
<td>29</td>
</tr>
<tr>
<td>4</td>
<td>0.34</td>
<td>0.88</td>
<td>2.44</td>
<td>12.3</td>
<td>3.3</td>
<td>1.2</td>
<td>33</td>
</tr>
<tr>
<td>5</td>
<td>0.31</td>
<td>0.69</td>
<td>2.22</td>
<td>11.7</td>
<td>3.0</td>
<td>1.2</td>
<td>35</td>
</tr>
<tr>
<td>6</td>
<td>0.27</td>
<td>1.10</td>
<td>1.81</td>
<td>10.0</td>
<td>1.8</td>
<td>1.2</td>
<td>35</td>
</tr>
<tr>
<td>7</td>
<td>0.27</td>
<td>1.03</td>
<td>2.19</td>
<td>9.2</td>
<td>1.9</td>
<td>1.1</td>
<td>35</td>
</tr>
</tbody>
</table>

* Analysis conducted in the Agronomy Department Analytical Laboratory.
† Analysis conducted in the Animal Nutrition Analytical Laboratory.