A COMPARISON OF CRUSHED OATS VERSUS WHOLE OATS FOR
MILK PRODUCTION IN DAIRY COWS.

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Toland (1976) showed that when oats were fed to steers there was a small
improvement in digestibility from dry-rolling. These oats were fed as a
supplement to hay at total intakes of 6 kg DM/day rather than as a supplement to
pasture at higher levels of intake. We have compared crushed and whole oats fed
to dairy cows grazing pasture to determine whether using crushed oats in the
diet affected milk production.

Forty-five Friesian x Jersey cows in their eighth month of lactation were
assigned to 3 groups matched on the basis of liveweight, condition score and
production during a period of common grazing. For the next 3 weeks the cows
were rotationally grazed on winter pasture (dry matter digestibility 50%,
Nitrogen 2.6%). The pasture offered to all groups was restricted to provide 50% of
requirements; no supplement was offered to the control group. The
supplemented cows received 4.4 kg DM of whole or crushed oats. Apparent energy
and nitrogen digestion coefficients were determined in sheep.

Table I  Effects of crushing oats on milk production, liveweight, condition
score and feed quality

<table>
<thead>
<tr>
<th></th>
<th>CONTROL</th>
<th>CRUSHED OATS</th>
<th>WHOLE OATS</th>
<th>LSD (P=0.05)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milk Yield L/d</td>
<td>5.29 a</td>
<td>8.57 b</td>
<td>8.48 b</td>
<td>0.9</td>
</tr>
<tr>
<td>Fat Yield g/d</td>
<td>304 a</td>
<td>371 b</td>
<td>448 c</td>
<td>48</td>
</tr>
<tr>
<td>Protein Yield g/d</td>
<td>305 a</td>
<td>317 b</td>
<td>311 b</td>
<td>29</td>
</tr>
<tr>
<td>Milk Fat Content g/kg</td>
<td>59 a</td>
<td>44 b</td>
<td>53 c</td>
<td>4</td>
</tr>
<tr>
<td>Milk Protein Content g/kg</td>
<td>37</td>
<td>36</td>
<td>38</td>
<td>2</td>
</tr>
<tr>
<td>Liveweight</td>
<td>451 a</td>
<td>464 b</td>
<td>468 b</td>
<td>9</td>
</tr>
<tr>
<td>Condition Score</td>
<td>4.3</td>
<td>4.5</td>
<td>4.4</td>
<td>0.2</td>
</tr>
<tr>
<td>DM Digestibility %</td>
<td>72.3</td>
<td>69.5</td>
<td>69.8</td>
<td>10</td>
</tr>
<tr>
<td>N Digestibility %</td>
<td>49.9 a</td>
<td>46.5 b</td>
<td>46.6 b</td>
<td>4</td>
</tr>
<tr>
<td>Metabolizable Energy MJ/kg DM</td>
<td>12.7</td>
<td>12.2</td>
<td>12.3</td>
<td>2</td>
</tr>
</tbody>
</table>

Means with different letters differ significantly, P<0.05

As pasture availability was low, both supplements significantly increased
milk, fat and protein yields, and liveweight (Table I). Both supplements
decreased milk fat content although the effect was greater with crushed oats.
As a result the yield of milk fat was significantly less with crushed oats than
whole oats. Crushing had little effect on feed quality as measured by
digestibility and metabolizable energy content.

These results show that there was no benefit to either milk yield or milk
fat production from crushing oats.


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