Feeding Wheat and Potential Vomitoxin (DON) Problems
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In the face of high feed prices, dairy producers are considering every possible option, including wheat. However, some of the 2009 Michigan wheat harvest may be infected with Head Scab, a fusarium mold, which produces vomitoxin or DON. Vomitoxin is associated with reduced feed intake and lower milk production of dairy cattle.

Doubtless, some of this infected wheat may be available. Care must be taken when considering wheat in the ration.

General Guidelines for feeding wheat to dairy cattle
1. Use coarse grind or roll before feeding. Fine grinding reduces acceptability and consumption, even in a totally mixed ration.
2. In lactation rations, limit wheat to 10 to 20% of ration dry matter (DM), or no more than 10lb/ 50lb total DM per cow per day. Wheat starch is highly and rapidly fermentable and will cause rumen acidosis and reduce feed intake at higher inclusion rates.
3. Replace 50% of the cereal grain (e.g., high moisture corn, cracked corn) in the ration with wheat; this is 50% of the cereal grain, NOT of the total concentrate.
4. Feeding rate depends on the other ingredients in the ration. For example, if the ration contains appreciable amounts of high moisture corn (which is highly fermentable) and/or predominantly corn silage as forage, 20% of the ration DM may be too high. A practical approach is to start at 5 to 10% of ration DM and increase wheat slowly over a month or so, and monitor feed intake, milk yield, fecal consistency and milk fat test.

Vomitoxin in Wheat
1. Test the wheat for vomitoxin BEFORE purchase and feeding. Test each load or bin because vomitoxin levels vary.
2. Guideline for maximum concentration of vomitoxin is 2 ppm in the total ration DM. Therefore the maximum lb of wheat with 20, 15, 10 and 5 ppm of vomitoxin at 40, 45 and 50lb DM intake are as follows.
TABLE: Recommended feeding rates with varying dry matter intake and vomitoxin concentrations.

<table>
<thead>
<tr>
<th>Vomitoxin in wheat, ppm</th>
<th>40</th>
<th>45</th>
<th>50</th>
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<tbody>
<tr>
<td>20</td>
<td>4</td>
<td>4.5</td>
<td>5</td>
</tr>
<tr>
<td>15</td>
<td>6</td>
<td>6.7</td>
<td>7.5</td>
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<tr>
<td>10</td>
<td>8</td>
<td>9</td>
<td>10</td>
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<tr>
<td>5*</td>
<td>8</td>
<td>9</td>
<td>10</td>
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* Wheat inclusion rate limited to 20% of ration DM.

3. Vomitoxin does not accumulate in milk or meat and typically is degraded in the rumen, unless concentrations get too high.
4. A number of “binding agents” are marketed that are reported to bind vomitoxin and reduce its negative effects. There is little published research to confirm the effectiveness of binding agents.

The only safe way to feed wheat contaminated vomitoxin is to test for the level in the wheat, determine the maximum amount that can be fed (2 ppm vomitoxin in the final ration DM); feed no more than 28% of the ration as wheat, whether infected or not; and cautiously and gradually increase inclusion rates to the calculated maximum.