WE ASKED, THEY ANSWERED: MONTANA(ISH) FARMER’S GRAIN PRODUCTION AND ELEVATORS’ GRAIN GRADING DECISIONS

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My research interests: how do market participants capture value of quality-differentiated grain products?

- I look at production (farmers) and elevator/processor level of marketing channel.

- I’m interested in interaction dynamics:
  - What interactions exist?
  - What and how do market factors drive these interactions?
  - How does each side maximize the value they capture?
  - What factors hinder/skew this value capture?
Regional focus

- Primarily look at wheat markets in Great Plains region
- Unique production and role of Montana / North Dakota
- Quality-differentiated products that help “fill gaps”
In the decade of studying these markets

# of questions >> # answers...

...and really can’t use answers from other regions!

(so, decided to try getting some answers)
Wheat is one of few major non-RR crops: competing public vs. private investments.

What are producers’ choosing?

#### Percentage of Varieties Planted in MT, by Breeding Program

<table>
<thead>
<tr>
<th></th>
<th>Private</th>
<th>Public</th>
<th>Other/Unknown</th>
</tr>
</thead>
<tbody>
<tr>
<td>Winter wheat</td>
<td>22.80%</td>
<td>63.50%</td>
<td>13.70%</td>
</tr>
<tr>
<td>Spring wheat</td>
<td>31.00%</td>
<td>55.10%</td>
<td>13.90%</td>
</tr>
<tr>
<td>Barley</td>
<td>52.20%</td>
<td>29.40%</td>
<td>18.40%</td>
</tr>
</tbody>
</table>
What about seed sourcing?

<table>
<thead>
<tr>
<th>Percentage of Seed, by Source</th>
<th>Certified</th>
<th>Saved</th>
<th>Other sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Winter wheat</td>
<td>37.95%</td>
<td>56.52%</td>
<td>2.81%</td>
</tr>
<tr>
<td>Spring wheat</td>
<td>29.89%</td>
<td>63.28%</td>
<td>5.85%</td>
</tr>
</tbody>
</table>
Post-harvest decisions: protein blending

### Blending Likelihood and Percent Wheat Blended

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent of producers blending on farm</td>
<td>12.01%</td>
</tr>
<tr>
<td>Percent of wheat blended (those who blend)</td>
<td>49.94%</td>
</tr>
</tbody>
</table>
How far are farmers willing to haul to respond to market signals?

### Farm-to-Elevator Truck Hauling Distances

<table>
<thead>
<tr>
<th>Distance</th>
<th>Montana</th>
<th>Washington</th>
<th>North Dakota</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-10 mi</td>
<td>12.24%</td>
<td>63.65%</td>
<td>35%</td>
</tr>
<tr>
<td>11-25 mi</td>
<td>30.41%</td>
<td>21.27%</td>
<td>36%</td>
</tr>
<tr>
<td>26-50 mi</td>
<td>31.61%</td>
<td>11.95%</td>
<td>14%</td>
</tr>
<tr>
<td>50+ mi</td>
<td>25.74%</td>
<td>3.13%</td>
<td>15%</td>
</tr>
</tbody>
</table>
Protein schedules: a market-based mechanism for creating incentives to deliver quality-differentiated grain

Two marketing landscapes:

- Central Plains: single price, no protein scales
- Northern Plains: protein scales, significant price differentiation
Do elevators like market-based incentive system?

- “Encourage farmers to adjust inputs... producers have higher incentive to adopt varieties that markets desire”
- “No scale is easier, but hard to change established system. Nice to get what you need, when you need it.”
- “Paying for quality incentivizes farmers to grow a better crop.”

But still unclear who captures more value: elevators that have protein scales or those that do not?
How do northern Great Plains elevators deal with grain quality problems?

**Insects**: 95.5% surveyed elevators simply won’t accept.

**Fumigation**: 91% surveyed elevators never fumigate. Remaining indicated ability, but noted that it’s rare.

**IDK**: usually no discounts for 0–10 kernels. For 11–25 kernels, $0.01 per kernel per bushel.
Complex market structure with differential market power dynamics between producers and elevators/processor.

Who captures value and how much within this complex structure? How to measure this?
Your thoughts?

Any surprises?
Any similarities?
What else would be important to learn?

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