Impact of the Cold 2009 Growing Season, Hailstorms, and Storage Problems on DDGS Quality

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Corn Crop Summary

Quantity and Quality

- Quantity above trendline
- Quality
  - Wet: >20% M, Much greater ECB
  - Light: Test Weight ~ 52 lb/bu, no increase
  - Low protein: <7.5% (15% M)
  - Storage time: ~50% of normal
  - Damage: ~ 3-5%, normal = 1-2%
“Sac to Grundy” storm

- August 9, 2009
- Travelled ~150 miles; 900,000 acres
- Hail swath ~10 miles wide; middle 3 miles (~30%) had 100% damage
Hail damage, Sac County, 8-09-2009

Photos courtesy: Mark Licht, ISU Extension
Ear rot assessments – percent severity; rot present

- Fusarium
- Cladosporium
- Gibberella
- Penicillium
- Trichoderma
Corn, NE Iowa, January 2010
# Ear Rot Summary

<table>
<thead>
<tr>
<th>Sample Type</th>
<th>Mean Ear Rot Severity (%)</th>
<th>Ear Rots Present</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hail damage samples (N=56)</td>
<td>11.8 (0 – 53.4)</td>
<td>Fusarium* Gibberella* Cladosporium, Penecillium</td>
</tr>
<tr>
<td>Background samples (N=27)</td>
<td>3.3 (0 – 16.4)</td>
<td>Cladosporium* Fusarium, Gibberella</td>
</tr>
<tr>
<td>Standing corn samples (N=72)</td>
<td>24.0 (0.2 - 83.8)</td>
<td>Cladosporium* Fusarium, Gibberella</td>
</tr>
</tbody>
</table>

* Predominant ear rot present
DON and ZEN in 2009 Corn from Iowa

Vomitoxin (DON) and Zearalenone (ZEN), 2009 Corn

[Graph showing data points for DON and ZEN]
Summary

- Weather conditions created several issues for the 2009 corn crop.
- Hail, delayed maturity, early snowfall
- Problems in the fall: Increased toxins
- Problems overwinter: Increased mold
- Toxin monitoring likely routine practice
- Strain on grain logistics with yield
- Other agronomic practices affect outputs as well.
Thoughts

• Could delayed or prevented harvest be a covered loss in MPCI?
• Field loss can be adjusted accurately.
• Propane is cheaper than corn
• Preharvest scouting/risk assessment; connects with food safety needs.
• Presampling for process uses?
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Grain Quality Laboratory

www.iowagrain.org

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