PRACTICAL
FARMERS
OF IOWA
ON-FARM
RESEARCH
What are we trying to achieve?

• OUR GOAL IS TO IDENTIFY AND HOPEFULLY ADDRESS BARRIERS TO THE VIABILITY OF NICHE MARKET PORK PRODUCTION.
Apple Cider Vinegar Supplementation in Feeder Pigs

In a Nutshell

- Apple cider vinegar has been long advocated for its health benefits and is gaining recognition as a health supplement for livestock.
- Apple cider vinegar is held to being a health tonic that promotes beneficial gut bacteria, improves digestion of feedstuffs, enhances performance, and helps decrease parasite load.
- Tom Frantzen supplemented three groups of pigs with apple cider vinegar and measured feed intake, average daily gain, feed efficiency and return over feed costs compared to pigs not supplemented.

Key findings:

- Pigs supplemented with apple cider vinegar were observed to have a clearer coat, improved viability and...

Two groups of pigs, one supplemented with apple cider vinegar and one not supplemented. The split feeder in the center allowed Tom to conduct the trial. Photo taken November 17, 2015.
APPLE CIDER VINEGAR...

5 GALLONS PER TON
Figure 2. Average daily gains for each rep as well as the means for pigs fed apple cider vinegar (ACV) and those not (No ACV). For the mean, columns with same letters are not significantly different at $P \leq 0.05$. The least significant difference (LSD) is indicated above the mean column.

Figure 4. Carcass yields for each rep as well as for pigs fed apple cider vinegar (ACV) and those not (No ACV). For the mean, columns with same letters are not significantly different at $P \leq 0.05$. The least significant difference (LSD) is indicated above the mean column.
ACV pigs netted $12.87 more per head than No ACV pigs.

<table>
<thead>
<tr>
<th></th>
<th>Rep 1</th>
<th>Rep 2</th>
<th>Rep 3</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment</td>
<td>ACV</td>
<td>No ACV</td>
<td>ACV</td>
<td>No ACV</td>
</tr>
<tr>
<td>Carcass price ($/lb)</td>
<td>$2.00</td>
<td>$2.00</td>
<td>$2.00</td>
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<tr>
<td>Carcass weight (lb/hd)</td>
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<td>Carcass value ($/hd)</td>
<td>$346.00</td>
<td>$354.80</td>
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<tr>
<td>Total feed intake (lb/hd)</td>
<td>637</td>
<td>741</td>
<td>679</td>
<td>607</td>
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<tr>
<td>Total feed costs ($/hd)</td>
<td>$168.17</td>
<td>$184.51</td>
<td>$179.26</td>
<td>$151.14</td>
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<tr>
<td>Net returns ($/hd)</td>
<td>$177.83</td>
<td>$170.29</td>
<td>$178.88</td>
<td>$160.84</td>
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</table>
Apple Cider Vinegar

“Every time we sorted pigs, I could see a difference in size and could pull out vinegar pigs right away from their looks.” - Irene Frantzen

“The results indicate that ACV improves pig performance and this is something that merits further investigation, by other farmers and by industry.” - Tom Frantzen

“After feeding ACV in three repetitions, I saw improved pig vitality. Vinegar pigs were more vigorous.” - Tom Frantzen

Key findings:

• Pigs supplemented with apple cider vinegar were observed to have a sleeker coat, improved vitality and looked healthier than those not receiving apple cider vinegar.

• Pigs supplemented with apple cider vinegar tended towards increased feed intake and average daily gains, higher carcass yields, better feed efficiency, and higher profits.

Project Timeline:
September 2014 – November 2015
Objective: To measure if feed efficiency of a small grain (high-fiber) based diet increases when pelleted.
Methods

- Split litters into two groups, take weights monthly
- Color code ear tags identify each pig!
- Feed one group mash and one group pellets
- Keep records of ration composition, nutritional analysis and costs
- Collect carcass information
SPLIT FEEDER

WHEN WE DO REPLICATED TRIALS WE ROTATE THE ‘TREATED’ SIDE TO EVEN OUT “BACKGROUND NOISE”.
PFI PURCHASED A SCALE

WITH THIS SCALE WE CAN OBSERVE THE INDIVIDUAL PERFORMANCE OF THE EAR TAGGED PIGS IN THE FEEDING TRIAL.
PFI TRIAL – WEIGHING & RECORDING
WE GENERATE INDIVIDUAL ANIMAL PERFORMANCE WITH PERIODIC WEIGHING.
FEED SAMPLES ARE ANALYZED.
HIGH FIBER DIETS ARE RESEARCHED.
Results

Round 1 Average Daily Gains:
- Mash – 1.54
- Pellets – 1.53

Round 2 Average Daily Gains:
- Mash – 1.51
- Pellets – 1.55
2ND LOCATION  SPLIT FEEDER TRIAL
Next Steps...
2018 AND 2019 RESEARCH

• FOCUS #1: REPLACING SOME OF THE CORN IN GROW FINISH DIETS WITH HYBRID RYE. THREE ROUNDS OF COMPARISONS.

• FOCUS #2: COMPARING THE EFFECT OF HIGH TEMPERATURE PELLETING OF THE RYE REPLACEMENT DIET TO NOT PELLETED.