On-farm Winter Canola Storage

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Canola Storage Concerns

• Canola seed is very small
  – 115,000 seeds per pound
• High oil content: ~ 40%
• Debris – stems, leaves, pods
• “Sweat” or extended respiration producing heat and moisture for 6-8 weeks
Why so dry????????

- Rancidity in Southern Great Plains heat
- Oil content = microbial activity
- Oil content = heat
- Sweat period
KEY THOUGHTS...

• Monitor bins closely...weekly
• Temp control + MC control + insect control = SUCCESSFUL OILSEED STORAGE
Prepare Bins for Storage

- Remove all old grain residue
- Seal all cracks and holes
  - caulk
  - closed cell foam
  - duct tape
  - replace missing bolts
Prepare Handling Equipment

- Plug all holes....
- Tape all cracks....
- Foam sealant and caulking are your friends!
- Where water goes....so does canola!
Prepare Bins for Storage

• Floor perforations must be protected
  – Line bottom of bins
    • two layers of aluminum window screen
    • trampoline tarpaulin

• Leave opening for grain unloading
Store Clean Canola

- Debris can add moisture and attract insects
- Clean canola using
  - scalper aspiration
  - indent cylinder cleaning
  - sieve screening
- Clean to less than 2.3% foreign material
Aeration

- Bin must have aeration system
- Full floor perforation is best
- Positive pressure is preferred
- Grain surface should be leveled
- Airflow rates for temperature management
  - 0.08 – 0.15 cfm/bu
  - At 0.08 cfm, up to 150-200 hours for a 20° drop
- Airflow rates for natural air drying
  - 0.4 – 2.0 cfm/bu – increase static air pressure
  - run fans continuously until desired moisture
- Static pressure for canola is 2-3 times that of wheat
Insect Pests Found in Bins

• Very few insects were found
• Those found included:
  – Rusty grain beetle
  – Red flour beetle
  – Lesser grain borer
  – Indianmeal moth
  – Booklice
• Predatory mites were also found
Insecticides

- Few insecticides currently available
- In the U.S., no protectants are labeled and phosphine fumigation can only be conducted on canola that is destined for non-food use
Questions?