Reduce Grain Sorghum Harvest Losses

Cooperative Extension South Dakota State University
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By G. R. Durland, Extension agricultural engineer, and Paul Turnquist, Professor of agricultural engineering

Grain losses in bu/acre and seed crackage for different harvesting dates (All weights are adjusted to 12% moisture content, = 76.9 Bu/Acre)

<table>
<thead>
<tr>
<th>Harvesting Date and Moisture Content</th>
<th>Sept. 25 (33.6%)</th>
<th>Sept. 30 (22.1%)</th>
<th>Oct. 8 (16.6%)</th>
<th>Oct. 13 (13.0%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Field shatter loss, bu/ac</td>
<td>.1</td>
<td>.1</td>
<td>2.2</td>
<td>2.2</td>
</tr>
<tr>
<td>Cutter loss, bu/ac</td>
<td>1.0</td>
<td>1.9</td>
<td>1.5</td>
<td>1.5</td>
</tr>
<tr>
<td>Reel loss, bu/ac</td>
<td>1.8</td>
<td>4.0</td>
<td>3.3</td>
<td>4.0</td>
</tr>
<tr>
<td>Cylinder loss, bu/ac</td>
<td>3.7</td>
<td>1.9</td>
<td>.9</td>
<td>.8</td>
</tr>
<tr>
<td>Shoe loss, bu/ac</td>
<td>1.0</td>
<td>.3</td>
<td>.6</td>
<td>.6</td>
</tr>
<tr>
<td>Total Loss, bu/ac</td>
<td>7.6</td>
<td>8.2</td>
<td>8.5</td>
<td>9.1</td>
</tr>
<tr>
<td>% Seed damage due to harvesting</td>
<td>6</td>
<td>9</td>
<td>10</td>
<td>10</td>
</tr>
</tbody>
</table>

High moisture combining of mature grain sorghum has advantages and disadvantages. The advantages are: (1) Reduction of losses due to adverse weather conditions. (2) Better utilization of good harvesting weather. (3) Utilization of existing drying facilities. Disadvantages are: (1) Need for a dryer or making arrangements for drying. (2) Increased cylinder speed to reduce cylinder losses, which increases seed crackage and reduces germination. (3) Need for a reclaimer to facilitate drying, particularly if weeds are present.
I. Rods that extend ahead and above guards help save standing heads. 2. Gathering lugs (arrow) on belts of row unit help bring stalks into header. 3. One unit is mounted on conventional header for each row.

Header attachments will reduce harvesting losses considerably under standing and lodged conditions. These attachments are particularly valuable in lodged sorghum. The attachment fits in front of the grain header cutterbar and has gathering points, gathering chains and kicker wheels similar to a forage harvester head. Vertical finger cylinders and special gathering cones are also used in row-crop attachments.

Row spacings of 30 inches do not have the lodging problem of 38” or 40” rows, as adjacent plants are more likely to support the heads of broken stalks and keep them from settling to the ground.

Comparison of header loss in a field study between the conventional header and row harvester is shown in Figure 3.

Summary of harvesting recommendations to decrease field losses and seed damage:
1. Harvest early and dry artificially if possible.
2. Use row-crop attachments on grain header cutterbar.
3. Harvest at forward speed of 2.5 to 3 mph.
4. Set reel bat speed at about 25 percent faster than ground speed.
5. Run cylinder at peripheral speed of about 3,500 feet per minute.
6. Set concave clearance at about 1/2” in front and 1/8”-3/16” at rear.
7. Set upper sieve 1/2 to 3/4 open and lower sieve 1/4 to 1/2 open.