

# 2010 SMFD

## Improving Harvest, Storage and Marketing Strategies – LEMMONS

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## 4 Stages of Soybean Harvest Loss

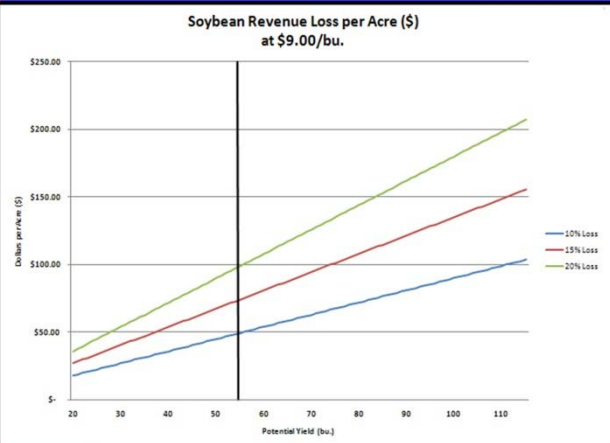
- Pre-harvest Loss
- Gathering loss
- Cylinder loss
- Separation loss

2010SMFD-LEMMONS (1)

## What is the Cost of Harvest Loss?

- **At 55 bushels per acre on soybeans:**
  - A 10% loss = 5.5 bushels  
– @ \$9.00 per bushel = \$49.50 per acre
  - A 15% loss = 8.25 bushels  
– @ \$9.00 per bushel = \$74.25 per acre
  - A 20% loss = 11 bushels  
– @ \$9.00 per bushel = \$99.00 per acre

2010SMFD-LEMMONS (2)



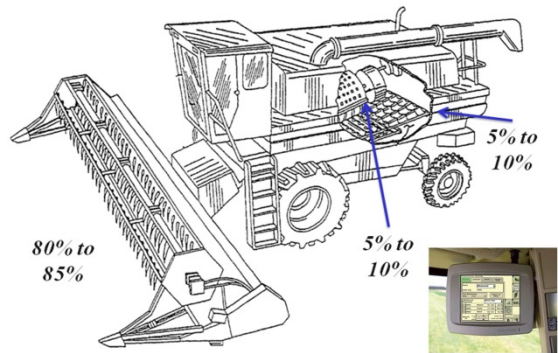
2010SMFD-LEMMONS (3)

Operator Skill	Combine Op. Loss in Bushels per Acre	Harvest Rate in Acres per Hour	Value of Soybean Loss \$hr <sup>-1</sup>	Gain (over poor operator) \$/hr.
Poor	2.6	10	\$234	---
Average	1.6	10	\$144	\$90
Good	0.9	10	\$81	\$153

Michigan State University, 2008; Hilker and Soyfar. Assumes \$9/bushel harvest price

2010SMFD-LEMMONS (4)

## Measuring Harvest Loss



2010SMFD-LEMMONS (5)

## Measuring Gather Loss

- **Shatter loss – in path between header and standing beans**
  - Count all loose beans and beans in detached pods
- **Lodged loss**
  - Count beans in pods attached to stalks which were not cut
- **Loose loss**
  - Count beans and pods attached to loose stalks cut but not gathered by header
- **Stubble loss**
  - Count beans in pods attached to stubble

2010SMFD-LEMMONS (6)

Source of Loss	Column A # of Beans in 10ft <sup>2</sup> Frame Area	Number of Beans Equal to Loss of One Bushel per Acre	Column B		Column C Acceptable Loss in Bushels per Acre
			Measured Soybean Loss in Bushels per Acre	% of Max	
1. Total Field Loss		40			3%
2. Pre-Harvest Loss		40			.25%
3. Combine Loss (Line 1 – Line 2)					2.75%
4. Gathering Loss – Total of:					2.50%
a. Shatter		40			.75%
b. Stubble		40			.75%
c. Lodged		40			.50%
d. Loose Stalk		40			.50%
5. Threshing and Separation Loss (Line 4 – Line 3)					.25%

2010SMFD-LEMMONS (7)

## Decreasing Losses

- **Majority of loss occurs at gathering**
  - Header
  - Speed
  - Condition
  - Timing

2010SMFD-LEMMONS (8)