Futures, Options & LRP
Lean Hogs

Tim Petry
Livestock Economist
Agribusiness and Applied Economics

www.ag.ndsu.edu/aginfo/lsmkt/livestock.htm
USDA Web Sites

- www.ers.usda.gov
  - Livestock, Dairy, Poultry Outlook
- www.nass.usda.gov
  - Hog & Pigs Report, Mar, Jun, Sep, Dec
- www.ams.usda.gov
  - Market Reports
- www2.rma.usda.gov/livestock
  - LRP, LGM
- www.cme.com (Chicago Mercantile Exchange)
  - Futures and Options
- www.dailylivestockreport.com
- www.lmic.info (Livestock Marketing Information Center)
DECEMBER 1 HOG BREEDING HERD
U.S. Inventory

Livestock Marketing Information Center
Data Source: USDA/NASS
H-S-25
01/25/08

DECEMBER 1 MARKET HOGS
U.S. Inventory

Livestock Marketing Information Center
Data Source: USDA/NASS
H-N-10
12/28/07
Lean Hog Contract

- 40,000 lbs, 400 cwt
- Hog carcasses that fall within the packer base weight range
- Feb, Apr, May, Jun, Aug, Oct, and Dec
- Lean Hog Trading terminates on 10th business day
- Cash settlement based on CME Lean Hog Index
- Daily limits: $3/cwt
CME Lean Hog Index

- Two day average of
  - Head count
  - Average net price
  - Average carcass weight

  ([www.ams.usda.gov/mnreports/lm_hg201.txt](http://www.ams.usda.gov/mnreports/lm_hg201.txt))

<table>
<thead>
<tr>
<th>Date</th>
<th>Day</th>
<th>Head Count</th>
<th>Average Head Count</th>
<th>Negot. Price</th>
<th>Average Negot. Price</th>
<th>SPMF Head Count</th>
<th>Average SPMF Head Price</th>
<th>SPMF Average Carcass Wt</th>
<th>CME Daily Price</th>
<th>Slaughtered Swine Net</th>
<th>CME LEAN HOG INDEX</th>
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<tbody>
<tr>
<td>02/19/08</td>
<td>Tue</td>
<td>29,972</td>
<td>197.15</td>
<td>59.32</td>
<td>201.34</td>
<td>134,375</td>
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<td>59.46</td>
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This report is based on information provided by companies that agreed to continue to participate in Livestock Mandatory Reporting on a voluntary basis.

**NATIONAL DAILY DIRECT HOG PRIOR DAY REPORT - SLAUGHTERED SWINE**

Slaughter Data for Tuesday, February 19, 2008

Barrows and Gilts (Live and Carcass Basis): 382,940

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<th>NEGOTIATED</th>
<th>OTHER MARKET FORMULA</th>
<th>SWINE MARKET FORMULA</th>
<th>OTHER PURCHASE ARRGMNT</th>
<th>TOTALS/ WTD AVG</th>
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<td>52,508</td>
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(Packer Buying Programs)
cme lean hog futures
settlement prices as of 02/20/08 07:00 pm (cst)

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<th>LOW</th>
<th>LAST</th>
<th>SETT</th>
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<td>26843</td>
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SEASONAL PRICE INDEX
-- SLAUGHTER HOGS
Iowa - Southern Minnesota, 1997-2006

Index

Max. Index
Avg. Index
Min. Index

Jan | Mar | May | Jul | Sep | Nov

H-P-03
07/12/07

Livestock Marketing Information Center
BARROW AND GILT PRICES
Iowa - So. Minnesota, Carcass Base Price, Weekly

$ Per Cwt.

Avg.
2002-06
2007
2008

JAN
APR
JUL
OCT

Livestock Marketing Information Center
FEDERALLY INSPECTED HOG SLAUGHTER
Weekly Average, By Month

AVG DRESSED WEIGHT - BARROWS & GILTS
Federally Inspected, Monthly

Livestock Marketing Information Center
Data Source: USDA/NASS
BASIS is difference between a cash price and the CME futures price.

HEDGING eliminates risk of adverse price movement, except for the risk of the basis being different than expected.
BASIS: Difference between cash price and futures price
Cash price – Futures price = basis
Futures Lean Hog Example
Hogs for May Market

Feb

MAY LHFUT $73 / cwt
EXPECTED BASIS 0
BREAKEVEN 73
BROKERAGE - 68 (included in BE)
EXPECTED PROFIT 5
## May 4

<table>
<thead>
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<th>Price Decrease</th>
<th>Price Increase</th>
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<td><strong>Short</strong></td>
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<td><strong>Long</strong></td>
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<td>78</td>
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<td></td>
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<td><strong>Cash</strong></td>
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<td><strong>Profit</strong></td>
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## May 4

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<td><strong>Profit</strong></td>
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Options

- Similar to an insurance policy
- PUT: right to a short futures contract
- CALL: right to a long futures contract
- Buyer pays market determined premium
- Seller receives premium
Lean Hog Options

- Feb, Apr, May, Jun, Aug, Oct, Dec
- Strike prices available in $2/cwt intervals
  nearby contracts may have $1/cwt intervals
- Terminate same as futures
Why use options?

Price  cash
Price  futures
Price ?  options

Options will always be 2\textsuperscript{nd} best
## Put Option
(same assumption as previous)

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<th>Nov</th>
<th>MAY LH PUT PREMIUM</th>
<th>EXPECTED BASIS BROKERAGE</th>
<th>MINIMUM EXPECTED PRICE BREAKEVEN</th>
<th>MINIMUM EXPECTED PROFIT</th>
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<td>MAY PUT</td>
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## Summary

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<tr>
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<td>OPTION</td>
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<td>FUTURES</td>
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BARROW AND GILT PRICES
Iowa - So. Minnesota, Carcass Base Price, Weekly

$ Per Cwt.

- Avg. 2002-06
- 2007
- 2008

Livestock Marketing Information Center
Livestock Risk Protection (LRP)
A New Price Risk Management Tool for Livestock Producers

Tim Petry, Livestock Economist
Feeder Cattle (beef, dairy, Brahman)
  ◦ Under 600 lbs
    • Steers or heifers
  ◦ 600–900 lbs
    • Steers or heifers
Fed cattle
Hogs
Lambs (9/17/07)
LRP

- Similar to put options
- 13% of premium is subsidized
- Crop insurance agents do not have to offer
- List of approved agents at:

  www3.rma.usda.gov/apps/agentsslpi/result.cfm
Market Hogs

- Based on CME lean hog index
- Futures, options, and LRP based on carcass weight
- Available at www.cme.com or DTN
- Live weight conversion = .74
Weekly lengths: 13, 17, 21, 26
Policy size:
- Any # up to 10,000 head per SCE
- 32,000 maximum per year
Coverage prices and rates change daily and are posted on the USDA Risk Management Agency (RMA) web site

www.rma.usda.gov

Coverage levels will range from 70 to 100 percent of expected price
Payment based on difference between COVERAGE PRICE (CP) & CME LEAN HOG INDEX (CME)

CP = $75/cwt
CME = $70
$5/cwt payment

Producers must submit 04–LRP–Claim Form within 60 days of end of contract
### Will Swine LRP Pay This Year?

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Advantages
- Small numbers can be hedged
- Premium subsidized 13 percent
- No brokerage or margin
- Receive higher prices in bull market
- Available in months where no futures/options
- All coverage prices available daily

Disadvantages
- Not “flexible” like futures and options
- Can be suspended at any time
Steps to LRP

1. Submit eligibility application form with insurance agent
2. Select a SCE (coverage prices and premiums are available after 5 PM (CST) except holidays)
   1. Number of head
   2. Policy length closest to marketing date
   3. Estimated average market weight
   4. Choose coverage price
3. Pay premium to agent
4. Agent submits SCE form electronically (hours are between 5 PM and 9 AM (CST), Tues–Sat only)
Livestock Gross Margin Insurance

- Offers protection against decline in hog feeding margin
- Gross Margin for Swine – market value of market hog less soybean meal and corn costs
- Sold only on second to last day of month
LGM for Swine Available for:

- **Farrow to Finish Operation**
  - Finished weight = 250 lbs (live weight)
  - Soybean meal price and corn price = price 3 months prior to swine target marketing month

- **Feeder Pig Finishing Operation**
  - Finished weight = 250 lbs (live weight)
  - Soybean meal price and corn price = price 2 months prior to swine target marketing month

- **SEW Pig Finishing Operation**
  - Finished weight = 250 lbs (live weight)
  - Soybean meal price and corn price = price 2 months prior to swine target marketing month
Any Questions?