Louisiana Seasonal Cattle Price Patterns

Seasonal Indices

Production agriculture is affected by seasonal production and demand cycles that are influenced by weather conditions as well as biological processes. These supply-and-demand conditions lead to seasonal price patterns. Seasonal price patterns repeat themselves because of the biological processes inherent in cow/calf production. Seasonality is also a result of the movement of cattle from cow/calf production to stocker operations and finally feedlots in the High Plains. Awareness of seasonal price patterns can improve production and marketing decisions made by producers.

Peel and Meyer define cattle price seasonality as the regular cattle price pattern occurring within a year. Price seasonality will differ by class of cattle sold, e.g. cow versus calf, and may vary within that class. Price seasonality is typically expressed as an index based on observed prices. Peel and Meyer suggest that prices should reflect an entire cattle cycle (see Anderson et al. for more information on cattle cycles). Producers in Louisiana should be aware of the fact that price seasonality is more pronounced for lighter weight animals than feeder or fed cattle, but cull cows have the largest seasonal swings of all cattle classes (Peel and Meyer).

A seasonal index of cattle prices is simply the price for a given month divided by the yearly average. This ratio may be multiplied by 100 to express the monthly index as a percentage. For example, an index of 1.04 (or 104) suggests the price for the month is 4 percent above the yearly average.

Seasonal price indices reflect normal price patterns that exist because of supply-and-demand factors. These factors include weather conditions, type of cattle being sold and consumer demand. Seasonal indices become more reliable as more historical price data are available. Changes in consumer purchasing habits or supply availability can affect seasonal patterns temporarily or permanently.

For example, figure 1 (page 4) shows Louisiana steers weighing 400-450 pounds. The graph shows that cattle for this weight typically sell above the yearly average during the first half of the year. From June to August and from October through the end of the year, however, calf prices are below the yearly average because of the availability of more calves in the state (and nation) and because of a lack of demand for those calves. From the graph, March calves sell for 1.04 of the yearly average or 4 percent greater than the yearly average. In contrast, November calves sell for 0.97 of the yearly average (3 percent below the yearly average).

Along with the average monthly price index for a class of cattle, standard deviations from the average monthly index are also calculated. The standard deviation is the average deviation from the mean and provides an indication of how reliable the average monthly price index is. The larger the deviation, the greater the price variability in a given month. The price range for a given month will typically be within one standard deviation of the average 68 percent of the time.

Use of seasonal indices also can be useful to project future prices if a stable cattle market exists (Peel and Meyer). To project future prices, the seasonal indices for the current month and the month when cattle will likely be sold are needed. To calculate the projected price for the future month:

$$Price_{future\ month} = Price_{current\ month} \times \left(\frac{Index_{future\ month}}{Index_{current\ month}} \right)$$

The tables at the end of this report (page 3) provide the seasonal index for Louisiana for steers and heifers from 2001 thru 2008. These indices can be used to form an idea about future prices based on current prices in Louisiana. Standard deviations

are also included in this table, which can be used to calculate a range that prices may fall into. The following equation, adapted from Peel and Meyer, demonstrates how to calculate this price range:

$$Price_{current\ month} \times \left(\frac{Index_{future} \pm Standard\ deviation_{future}}{Index_{current}} \right)$$

where the standard deviation is added to the index for the future month to find the upper value of the projected range and subtracted to find the lower end of the range. There is a 16 2/3 percent chance that prices will be higher (lower) than the upper (lower) value of the predicted price range.

Pricing information to generate the Louisiana cull cow seasonal indices reflects changes made to the classification system that occurred in the past few years. The class of cull cows currently called Boning Cows 80-85 was previously referred to as Boning Cows Utility 1-3. Cows previously called Cutter 1-2 are now classified as Lean 85-90. Due to the names being changed and not the standards, the Boning cow classes were combined as were the Lean 85-90 and Cutter 1-2 to calculate the seasonal indices for Louisiana cull cows over 2000-2008.

Additional seasonal indices are provided for the five Market Area Fed Cattle Price, Oklahoma City Feeder Steers and Georgia Feeder Steers. The seasonal price index for the five Market Area reflects the slaughter areas of Texas/Oklahoma, Kansas, Colorado, Nebraska and Iowa/Minnesota. These indices reflect the time period from1999 to 2008. They reflect seasonal price patterns of cattle not typically sold in Louisiana, but influence the prices that Louisiana producers receive. As Louisiana is in a different geographic market than the additional feeder steer seasonal indices, transportation costs will impact prices, and predictions using the above formula may not be as reliable as the price expectations formed using the Louisiana seasonal indices.

References

Anderson, D.P., J.G. Robb, and J. Mintert. 1996. The Cattle Cycle. Managing for Today's Cattle Market and Beyond. Available at: http://www.lmic.info/memberspublic/pubframes.html. Accessed June 18, 2009.

Peel, D.S. and S. Meyer. 2002. Cattle Price Seasonality. Managing for Today's Cattle Market and Beyond. Available at: http://www.lmic.info/memberspublic/pubframes.html. Accessed June 18, 2009.

Table 1. Louisiana Seasonal Indices for 400 to 600 lb Steers, 2001-2008

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
400-450 lb steers	1.009	1.036	1.038	1.013	1.002	0.982	0.993	0.997	1.000	0.979	0.967	0.985
	(0.070)	(0.075)	(0.058)	(0.040)	(0.041)	(0.035)	(0.035)	(0.044)	(0.041)	(0.045)	(0.066)	(0.073)
450-500 lb steers	1.008	1.037	1.042	1.018	1.006	0.992	0.992	0.995	0.998	0.973	0.959	0.978
	(0.070)	(0.081)	(0.054)	(0.037)	(0.042)	(0.028)	(0.037)	(0.043)	(0.041)	(0.047)	(0.071)	(0.079)
500-550 lb steers	0.995	1.040	1.037	1.018	1.014	0.999	1.006	1.005	0.999	0.968	0.949	0.969
	(0.071)	(0.078)	(0.054)	(0.036)	(0.040)	(0.026)	(0.038)	(0.046)	(0.032)	(0.054)	(0.068)	(0.085)
550-600 lb steers	0.998	1.036	1.039	1.016	1.013	1.005	1.010	1.011	0.998	0.963	0.942	0.970
	(0.070)	(0.080)	(0.058)	(0.038)	(0.038)	(0.024)	(0.045)	(0.049)	(0.034)	(0.056)	(0.067)	(0.087)

Note: Prices used to generate indices obtained from USDA AMS.
Standard deviations in parentheses.

Table 2. Louisiana Seasonal Indices for 400 to 600 lb Heifers, 2001-2008

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
400-450 lb heifers	0.993	1.031	1.030	1.017	1.022	1.002	1.009	0.999	0.997	0.960	0.981	0.958
	(0.067)	(0.078)	(0.058)	(0.045)	(0.045)	(0.026)	(0.038)	(0.045)	(0.037)	(0.056)	(0.103)	(0.089)
450-500 lb heifers	1.001	1.037	1.033	1.027	1.025	1.008	1.008	1.006	0.995	0.955	0.942	0.962
	(0.071)	(0.083)	(0.060)	(0.047)	(0.040)	(0.029)	(0.038)	(0.046)	(0.036)	(0.051)	(0.086)	(0.089)
500-550 lb heifers	0.993	1.030	1.027	1.022	1.025	1.016	1.014	1.016	1.001	0.956	0.938	0.963
	(0.070)	(0.080)	(0.059)	(0.044)	(0.042)	(0.029)	(0.038)	(0.042)	(0.037)	(0.054)	(0.080)	(0.087)
550-600 lb heifers	0.990	1.022	1.022	1.020	1.027	1.016	1.019	1.030	1.001	0.953	0.930	0.970
	(0.065)	(0.083)	(0.058)	(0.048)	(0.040)	(0.036)	(0.037)	(0.042)	(0.035)	(0.057)	(0.077)	(0.090)

Note: Prices used to generate indices obtained from USDA AMS.
Standard deviations in parentheses.

Table 3. Louisiana Seasonal Indices for Cull Cows, 2000-2008

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Boning Cows (80-85)	0.971	1.035	1.031	1.033	1.035	1.043	1.036	1.031	0.977	0.932	0.927	0.948
	(0.048)	(0.075)	(0.072)	(0.051)	(0.045)	(0.043)	(0.047)	(0.045)	(0.043)	(0.054)	(0.088)	(0.089)
Lean 85-90 (850-1200)	0.969	1.060	1.075	1.062	1.021	0.983	0.972	0.985	1.016	1.043	1.030	1.044
	(0.049)	(0.116)	(0.145)	(0.138)	(0.137)	(0.136)	(0.169)	(0.156)	(0.135)	(0.147)	(0.181)	(0.178)

Note: Prices used to generate indices obtained from USDA AMS.
Standard deviations in parentheses.

Table 4. Seasonal Indices for Five Market Area Fed Cattle, Oklahoma City Feeder Steers and Georgia Feeder Steers, 1999-2008

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
5 Market Fed Cattle	0.993	1.000	1.017	1.011	1.000	0.986	0.967	0.976	0.999	1.015	1.025	1.012
	(0.06)	(0.053)	(0.052)	(0.048)	(0.043)	(0.043)	(0.045)	(0.041)	(0.042)	(0.07)	(0.08)	(0.069)
OKC Feeders[1]	0.946	0.945	0.947	0.966	0.981	1.016	1.031	1.041	1.049	1.033	1.025	1.018
	(0.068)	(0.064)	(0.049)	(0.042)	(0.043)	(0.037)	(0.046)	(0.046)	(0.047)	(0.057)	(0.068)	(0.085)
GA Feeders[2]	0.967	0.992	0.992	0.989	0.999	1.013	1.032	1.036	1.030	0.992	0.976	0.917
	(0.067)	(0.066)	(0.047)	(0.043)	(0.04)	(0.04)	(0.038)	(0.045)	(0.036)	(0.047)	(0.076)	(0.084)

[1] Medium and Large No. 1 Steers, 700-800 lb.
[2] Medium and Large No. 1 and 2 Steers, 700-800 lb.
Standard deviations in parentheses.

Source: Livestock Marketing Information Center and USDA AMS.

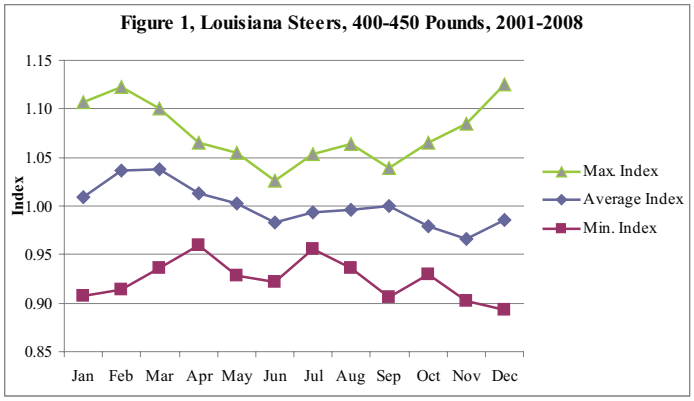


Figure 1, Louisiana Steers, 400-450 Pounds, 2001-2008
Index
1.15
1.10
1.05
1.00
0.95
0.90
0.85
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
Max. Index
Average Index
Min. Index

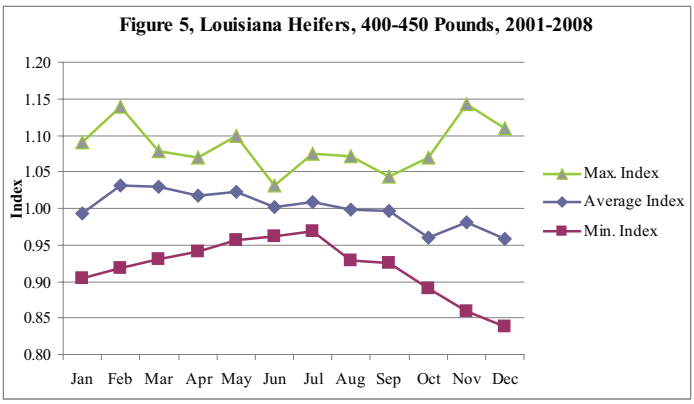


Figure 5, Louisiana Heifers, 400-450 Pounds, 2001-2008
Index
1.20
1.15
1.10
1.05
1.00
0.95
0.90
0.85
0.80
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
Max. Index
Average Index
Min. Index

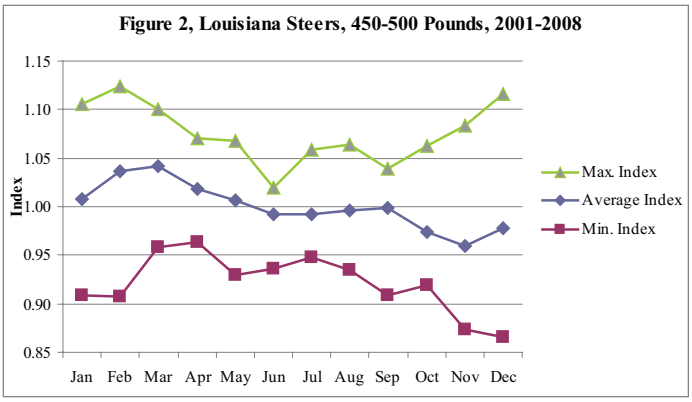


Figure 2, Louisiana Steers, 450-500 Pounds, 2001-2008
Index
1.15
1.10
1.05
1.00
0.95
0.90
0.85
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
Max. Index
Average Index
Min. Index

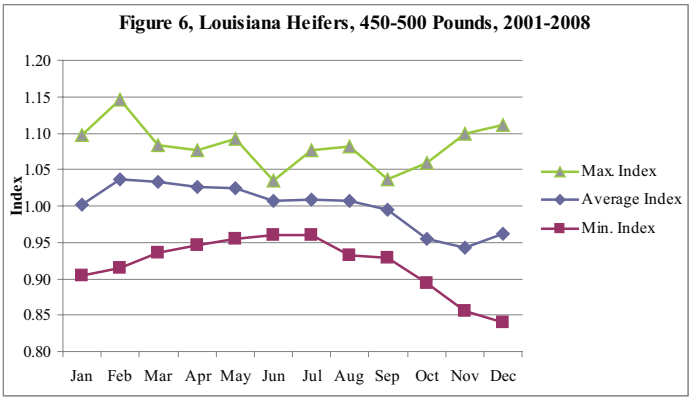


Figure 6, Louisiana Heifers, 450-500 Pounds, 2001-2008
Index
1.20
1.15
1.10
1.05
1.00
0.95
0.90
0.85
0.80
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
Max. Index
Average Index
Min. Index

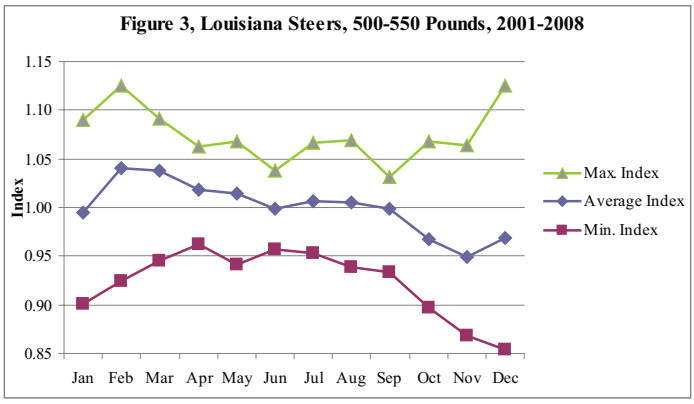


Figure 3, Louisiana Steers, 500-550 Pounds, 2001-2008
Index
1.15
1.10
1.05
1.00
0.95
0.90
0.85
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
Max. Index
Average Index
Min. Index

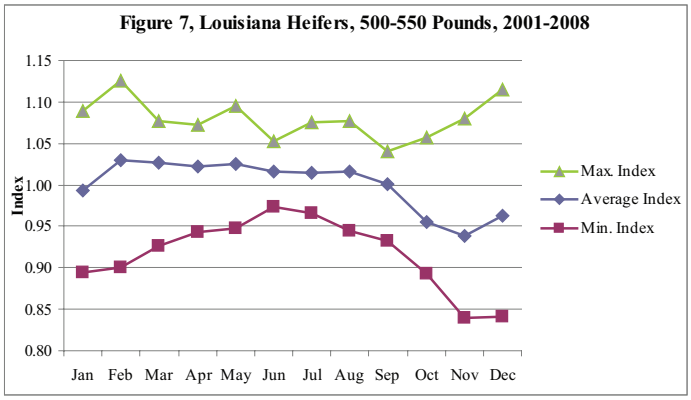


Figure 7, Louisiana Heifers, 500-550 Pounds, 2001-2008
Index
1.15
1.10
1.05
1.00
0.95
0.90
0.85
0.80
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
Max. Index
Average Index
Min. Index

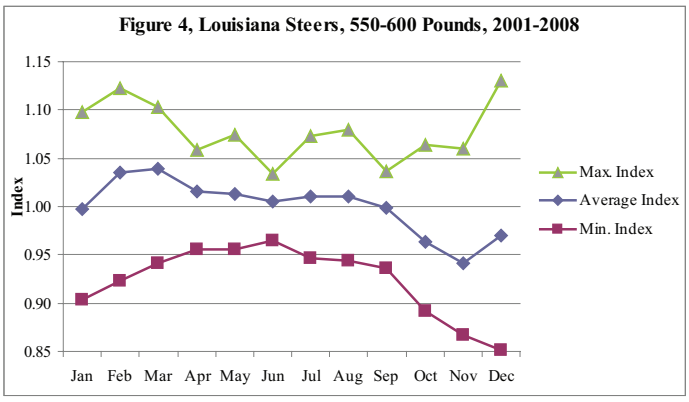


Figure 4, Louisiana Steers, 550-600 Pounds, 2001-2008
Index
1.15
1.10
1.05
1.00
0.95
0.90
0.85
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
Max. Index
Average Index
Min. Index

Figure 8, Louisiana Heifers, 550-600 Pounds, 2001-2008

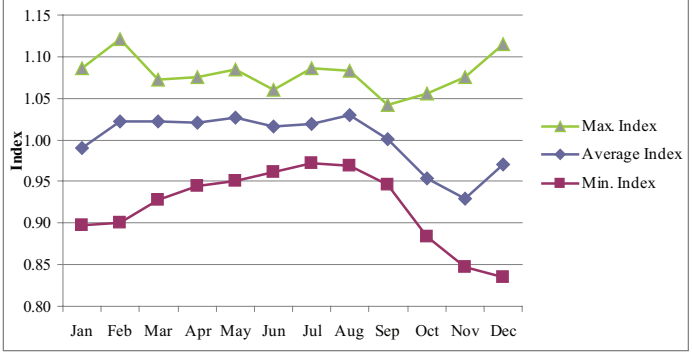


Figure 9, Louisiana Boning Cows, 2000-2008

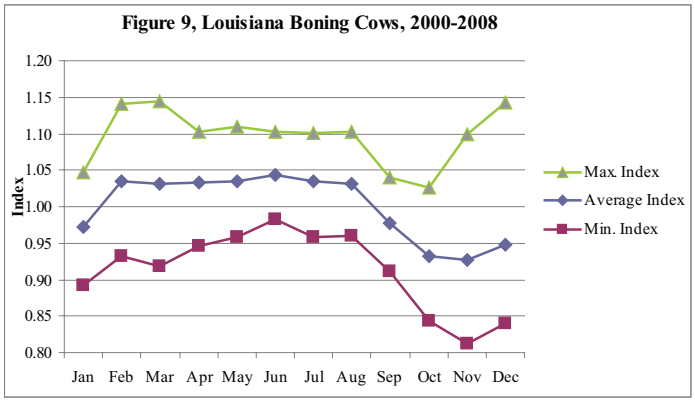


Figure 10, Louisiana Lean Cows, 2000-2008

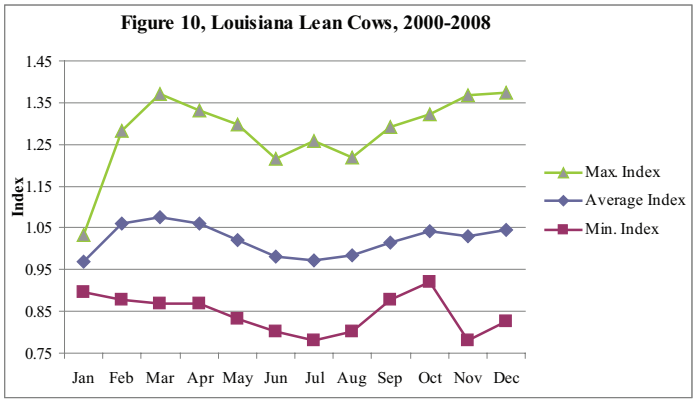


Figure 11, 5 Market Average for Fed Cattle, 1999-2008

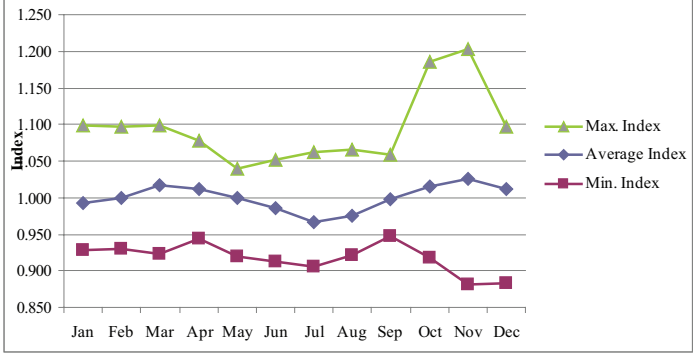


Figure 12, Oklahoma City Feeder Steer Index, 1999-2008

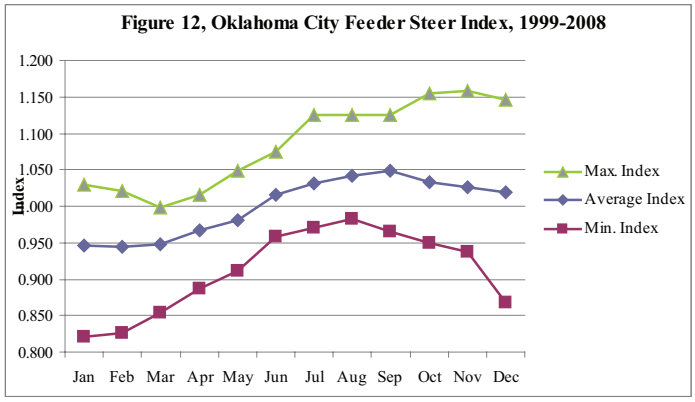
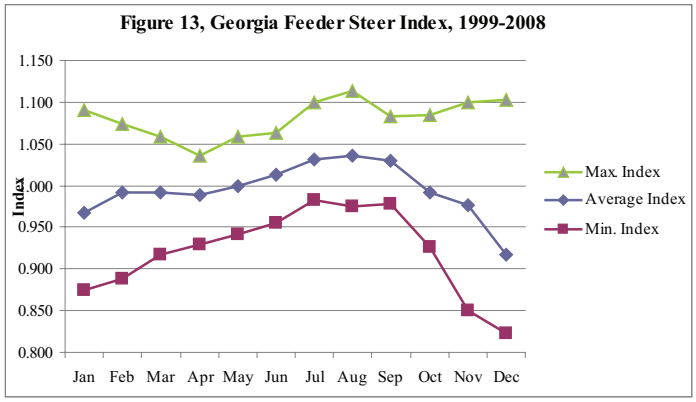


Figure 13, Georgia Feeder Steer Index, 1999-2008



J. Ross Pruitt, Assistant Professor
Department of Agricultural Economics and Agribusiness
LSU AgCenter
Baton Rouge, Louisiana

www.lsuagcenter.com

Louisiana State University Agricultural Center
William B. Richardson, Chancellor
Louisiana Agricultural Experiment Station
David Boethel, Vice Chancellor and Director
Louisiana Cooperative Extension Service
Paul D. Coreil, Vice Chancellor and Director

Pub. 3130 (on-line only) 7-09

Issued in furtherance of Cooperative Extension work, Acts of Congress of May 8 and June 30, 1914,
in cooperation with the United States Department of Agriculture.
The Louisiana Cooperative Extension Service provides equal opportunities in programs and employment.