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**YIELD AND TIME-IN-MOTION DATA FOR EXCEL  
SMART CHOICE PRODUCTS**

This study evaluated the yield of beef retail cuts from EXCEL Smart Choice subprimals that differed in quality grade (Choice and Select). In addition, time-in-motion data were collected to assess the economic differences associated with labor. A simulated retail market fabrication room and two professional meat cutters from Texas State Technical College were used to conduct this study. The data collected will be incorporated into the CARDS program to provide additional information pertaining to closely-trimmed retail products.

The yield and time data are presented in the following tables. The multiple component products (2-piece round, 2-piece clod and 2-piece top sirloin) were fabricated as separate pieces and are therefore presented in separate tables. The reasoning for this procedure was that actual retail meat cutters would most likely fabricate similar pieces of a multiple component product as a group rather than one whole product at a time. Yield data presented in the tables are percentages based on an unbagged weight, so not all purge loss is accounted for. Time information is presented in seconds.

The purpose of this research was to collect data that would be beneficial to retailers in the decision making process of whether or not closely trimmed primals and subprimals, such as the EXCEL Smart Choice products, could be incorporated into their retail beef programs. The retailer must be educated concerning the economics of increased yields of saleable product and decreased labor associated with closely-trimmed products. These data should provide valuable information and insight on this subject.

**MEAN PERCENTAGE YIELD VALUES FOR RETAIL CUTS FROM CHUCK  
EYE STRATIFIED BY QUALITY GRADE**

| UPC  | ITEM              | QUALITY GRADE |               |
|------|-------------------|---------------|---------------|
|      |                   | Choice        | Select        |
| 1067 | Blade Rst., Bnls. | 71.67         | 70.97         |
| 1108 | Eye Stk., Bnls.   | 7.88          | 6.60          |
| 1713 | Beef for Stew     | 10.24         | 10.70         |
| 1652 | Lean Trim         | 7.32          | 9.13          |
| 9000 | Fat Trim          | 2.66          | 2.42          |
| N/A  | Cut Loss          | 0.23          | 0.18          |
|      | <b>TOTAL</b>      | <b>100.00</b> | <b>100.00</b> |

**MEAN CUTTING TIMES (IN SECONDS) FROM CHUCK EYE STRATIFIED  
BY QUALITY GRADE**

| TIMES             | QUALITY GRADE |               |
|-------------------|---------------|---------------|
|                   | Choice        | Select        |
| Box to Table      | 6.49          | 6.10          |
| Pretrim           | 0.00          | 0.00          |
| Cutting           | 30.51         | 38.21         |
| Trim & Tray       | 43.02         | 32.89         |
| Lean Trim         | 123.47        | 157.11        |
| <b>TOTAL TIME</b> | <b>203.49</b> | <b>234.31</b> |

**MEAN PERCENTAGE YIELD VALUES FOR RETAIL CUTS FROM ONE-PIECE CLOD STRATIFIED BY QUALITY GRADE**

| UPC  | ITEM                      | QUALITY GRADE |               |
|------|---------------------------|---------------|---------------|
|      |                           | Choice        | Select        |
| 1084 | Top Blade Stk., Bnls.     | 11.14         | 10.16         |
| 1080 | Top Blade Pot Rst., Bnls. | 9.37          | 9.26          |
| 1050 | Shoulder Stk., Bnls.      | 28.44         | 32.17         |
| 1049 | Shoulder Pot Rst., Bnls.  | 34.33         | 32.03         |
| 1726 | Beef Cubes, Med.          | 1.78          | 1.86          |
| 1652 | Lean Trim                 | 10.04         | 10.86         |
| 9000 | Fat Trim                  | 4.82          | 3.43          |
| N/A  | Cut Loss                  | 0.08          | 0.23          |
|      | <b>TOTAL</b>              | <b>100.00</b> | <b>100.00</b> |

**MEAN VALUES FOR CUTTING TIMES (IN SECONDS) FROM ONE-PIECE CLOD STRATIFIED BY QUALITY GRADE**

| TIMES             | QUALITY GRADE |               |
|-------------------|---------------|---------------|
|                   | Choice        | Select        |
| Box to Table      | 7.43          | 6.88          |
| Pretrim           | 0.00          | 0.00          |
| Cutting           | 116.37        | 118.10        |
| Trim & Tray       | 93.21         | 81.07         |
| Lean Trim         | 41.13         | 39.66         |
| <b>Total Time</b> | <b>258.14</b> | <b>245.71</b> |

MEAN PERCENTAGE YIELD VALUES FOR RETAIL CUTS FROM TWO  
PIECE CLOD (CLOD PORTION) STRATIFIED BY QUALITY GRADE

| UPC  | ITEM                     | QUALITY GRADE |               |
|------|--------------------------|---------------|---------------|
|      |                          | Choice        | Select        |
| 1050 | Shoulder Stk., Bnls.     | 43.63         | 39.09         |
| 1049 | Shoulder Pot Rst., Bnls. | 48.24         | 50.49         |
| 1717 | Beef Cubed Steak         | 2.31          | 1.96          |
| 1652 | Lean Trim                | 2.84          | 4.06          |
| 9000 | Fat Trim                 | 2.77          | 4.19          |
| N/A  | Cut Loss                 | 0.21          | 0.21          |
|      | <b>TOTAL</b>             | <b>100.00</b> | <b>100.00</b> |

MEAN CUTTING TIMES (IN SECONDS) FROM TWO PIECE CLOD (CLOD  
PORTION) STRATIFIED BY QUALITY GRADE

| TIMES             | QUALITY GRADE |               |
|-------------------|---------------|---------------|
|                   | Choice        | Select        |
| Box to Table      | 7.53          | 6.32          |
| Pretrim           | 0.00          | 0.00          |
| Cutting           | 26.85         | 23.98         |
| Trim & Tray       | 67.90         | 60.74         |
| Lean Trim         | 21.30         | 24.00         |
| <b>TOTAL TIME</b> | <b>123.58</b> | <b>115.04</b> |

MEAN PERCENTAGE YIELD VALUES FOR RETAIL CUTS FROM TWO  
PIECE CLOD (TOP BLADE PORTION) STRATIFIED BY QUALITY GRADE

| UPC  | ITEM                      | QUALITY GRADE |               |
|------|---------------------------|---------------|---------------|
|      |                           | Choice        | Select        |
| 1084 | Top Blade Stk., Bnls.     | 33.80         | 32.18         |
| 1080 | Top Blade Pot Rst., Bnls. | 33.56         | 31.95         |
| 1717 | Beef Cubed Steak          | 0.36          | 0.50          |
| 1652 | Lean Trim                 | 22.77         | 25.96         |
| 9000 | Fat Trim                  | 9.44          | 9.33          |
| N/A  | Cut Loss                  | 0.07          | 0.08          |
|      | <b>TOTAL</b>              | <b>100.00</b> | <b>100.00</b> |

MEAN CUTTING TIMES (IN SECONDS) FROM TWO PIECE CLOD (TOP  
BLADE PORTION) STRATIFIED BY QUALITY GRADE

| TIMES             | QUALITY GRADE |              |
|-------------------|---------------|--------------|
|                   | Choice        | Select       |
| Box to Table      | 7.23          | 5.85         |
| Pretrim           | 0.00          | 0.00         |
| Cutting           | 67.31         | 56.76        |
| Trim & Tray       | 13.98         | 8.47         |
| Lean Trim         | 18.20         | 10.45        |
| <b>TOTAL TIME</b> | <b>106.72</b> | <b>81.53</b> |

**MEAN PERCENTAGE YIELD VALUES FOR RETAIL CUTS FROM LIP ON  
RIBEYE STRATIFIED BY QUALITY GRADE**

| UPC  | ITEM          | QUALITY GRADE |               |
|------|---------------|---------------|---------------|
|      |               | Choice        | Select        |
| 1207 | Ribeye Stk.   | 82.57         | 81.60         |
| 1713 | Beef for Stew | 1.66          | 2.50          |
| 1652 | Lean Trim     | 3.37          | 3.59          |
| 9000 | Fat Trim      | 12.02         | 12.10         |
| N/A  | Cut Loss      | 0.38          | 0.21          |
|      | <b>TOTAL</b>  | <b>100.00</b> | <b>100.00</b> |

**MEAN CUTTING TIMES (IN SECONDS) FROM LIP ON RIBEYE STRATIFIED  
BY QUALITY GRADE**

| TIMES             | QUALITY GRADE |               |
|-------------------|---------------|---------------|
|                   | Choice        | Select        |
| Box to Table      | 7.34          | 7.71          |
| Pretrim           | 13.75         | 20.79         |
| Cutting           | 34.17         | 26.43         |
| Trim & Tray       | 56.77         | 51.26         |
| Lean Trim         | 40.38         | 32.57         |
| <b>TOTAL TIME</b> | <b>152.41</b> | <b>138.76</b> |

**MEAN PERCENTAGE YIELD VALUES FOR RETAIL CUTS FROM RIBEYE  
ROLL STRATIFIED BY QUALITY GRADE**

| UPC  | ITEM         | QUALITY GRADE |               |
|------|--------------|---------------|---------------|
|      |              | Choice        | Select        |
| 1207 | Ribeye Stk.  | 98.56         | 94.37         |
| 1652 | Lean Trim    | 2.16          | 3.44          |
| 9000 | Fat Trim     | 1.84          | 1.98          |
| N/A  | Cut Loss     | 0.14          | 0.21          |
|      | <b>TOTAL</b> | <b>100.00</b> | <b>100.00</b> |

**MEAN CUTTING TIMES (IN SECONDS) FROM RIBEYE ROLL STRATIFIED  
BY QUALITY GRADE**

| TIMES             | QUALITY GRADE |              |
|-------------------|---------------|--------------|
|                   | Choice        | Select       |
| Box to Table      | 7.54          | 7.75         |
| Pretrim           | 2.95          | 1.79         |
| Cutting           | 29.02         | 22.71        |
| Trim & Tray       | 31.21         | 27.07        |
| Lean Trim         | 0.00          | 0.00         |
| <b>TOTAL TIME</b> | <b>70.72</b>  | <b>59.32</b> |



**MEAN PERCENTAGE YIELD VALUES FOR RETAIL CUTS FROM 0X1  
BONELESS STRIPLOIN STRATIFIED BY QUALITY GRADE**

| UPC  | ITEM                 | QUALITY GRADE |               |
|------|----------------------|---------------|---------------|
|      |                      | Choice        | Select        |
| 1295 | Top Loin Stk., Bnls. | 86.06         | 88.01         |
| 1652 | Lean Trim            | 4.93          | 5.27          |
| 9000 | Fat Trim             | 8.69          | 6.44          |
| N/A  | Cut Loss             | 0.32          | 0.28          |
|      | <b>TOTAL</b>         | <b>100.00</b> | <b>100.00</b> |

**MEAN CUTTING TIMES (IN SECONDS) FROM 0X1 BONELESS STRIPLOIN  
STRATIFIED BY QUALITY GRADE**

| TIMES             | QUALITY GRADE |               |
|-------------------|---------------|---------------|
|                   | Choice        | Select        |
| Box to Table      | 6.95          | 7.91          |
| Pretrim           | 0.00          | 0.00          |
| Cutting           | 35.03         | 37.17         |
| Trim & Tray       | 116.87        | 102.98        |
| Lean Trim         | 12.78         | 11.46         |
| <b>TOTAL TIME</b> | <b>171.63</b> | <b>159.52</b> |

**MEAN PERCENTAGE YIELD VALUES FOR RETAIL CUTS FROM 0x1  
SHORT LOIN STRATIFIED BY QUALITY GRADE**

| UPC          | ITEM                 | QUALITY GRADE |               |
|--------------|----------------------|---------------|---------------|
|              |                      | Choice        | Select        |
| 1316         | Porterhouse Stk., NT | 28.55         | 30.03         |
| 1330         | T-Bone Stk., NT      | 45.80         | 40.83         |
| 1295         | Top Loin Stk., Bnls. | 8.62          | 9.73          |
| 1726         | Beef Cubes, Med.     | 1.36          | 1.88          |
| 1713         | Beef for Stew        | 0.64          | 0.55          |
| 1652         | Lean Trim            | 3.78          | 5.03          |
| 9000         | Fat Trim             | 4.56          | 4.57          |
| 9001         | Bone                 | 6.19          | 7.04          |
| N/A          | Cut Loss             | 0.50          | 0.34          |
| <b>TOTAL</b> |                      | <b>100.00</b> | <b>100.00</b> |

**MEAN CUTTING TIMES (IN SECONDS) FROM 0x1 SHORT LOIN  
STRATIFIED BY QUALITY GRADE**

| TIMES             | QUALITY GRADE |               |
|-------------------|---------------|---------------|
|                   | Choice        | Select        |
| Box to Table      | 10.33         | 12.86         |
| Pretrim           | 0.00          | 0.00          |
| Cutting           | 49.29         | 51.08         |
| Trim & Tray       | 199.77        | 184.74        |
| Lean Trim         | 50.42         | 66.06         |
| <b>TOTAL TIME</b> | <b>309.81</b> | <b>314.74</b> |

MEAN PERCENTAGE YIELD VALUES FOR RETAIL CUTS FROM 1x1 BONE-  
IN STRIPLOIN STRATIFIED BY QUALITY GRADE

| UPC   | ITEM                 | QUALITY GRADE |        |
|-------|----------------------|---------------|--------|
|       |                      | Choice        | Select |
| 1289  | Top Loin Stk., BI    | 67.05         | 67.95  |
| 1726  | Beef Cubes, Med.     | 2.70          | 2.82   |
| 1295  | Top Loin Stk., Bnls. | 12.22         | 11.36  |
| 1652  | Lean Trim            | 4.44          | 4.79   |
| 9000  | Fat Trim             | 6.05          | 6.20   |
| 9001  | Bone                 | 6.93          | 6.20   |
| N/A   | Cut Loss             | 0.61          | 0.68   |
| TOTAL |                      | 100.00        | 100.00 |

MEAN CUTTING TIMES (IN SECONDS) FROM 1x1 BONE-IN STRIPLOIN  
STRATIFIED BY QUALITY GRADE

| TIMES        | QUALITY GRADE |        |
|--------------|---------------|--------|
|              | Choice        | Select |
| Box to Table | 9.02          | 9.68   |
| Pretrim      | 0.00          | 0.00   |
| Cutting      | 43.00         | 44.05  |
| Trim & Tray  | 148.62        | 159.40 |
| Lean Trim    | 46.12         | 51.79  |
| TOTAL TIME   | 246.76        | 264.92 |

**MEAN PERCENTAGE YIELD VALUES FOR RETAIL CUTS FROM BONELESS  
TOP SIRLOIN STRATIFIED BY QUALITY GRADE**

| UPC          | ITEM                    | QUALITY GRADE |               |
|--------------|-------------------------|---------------|---------------|
|              |                         | Choice        | Select        |
| 1346         | Top Sirloin Stk., Bnls. | 76.85         | 73.67         |
| 1732         | Cubes for Kabobs        | 8.58          | 8.01          |
| 1652         | Lean Trim               | 5.86          | 5.52          |
| 9000         | Fat Trim                | 8.64          | 12.64         |
| N/A          | Cut Loss                | 0.07          | 0.16          |
| <b>TOTAL</b> |                         | <b>100.00</b> | <b>100.00</b> |

**MEAN CUTTING TIMES (IN SECONDS) FROM BONELESS TOP SIRLOIN  
STRATIFIED BY QUALITY GRADE**

| TIMES             | QUALITY GRADE |               |
|-------------------|---------------|---------------|
|                   | Choice        | Select        |
| Box to Table      | 7.41          | 7.83          |
| Pretrim           | 0.00          | 0.00          |
| Cutting           | 28.33         | 29.81         |
| Trim & Tray       | 53.00         | 47.50         |
| Lean Trim         | 59.22         | 58.77         |
| <b>TOTAL TIME</b> | <b>147.96</b> | <b>143.91</b> |

**MEAN PERCENTAGE YIELD VALUES FOR RETAIL CUTS FROM BUTT  
TENDER STRATIFIED BY QUALITY GRADE**

| UPC          | ITEM                  | QUALITY GRADE |              |
|--------------|-----------------------|---------------|--------------|
|              |                       | Choice        | Select       |
| 1390         | Tenderloin Stk., Pld. | 92.64         | 0.00*        |
| 1652         | Lean Trim             | 5.91          | 0.00*        |
| 9000         | Fat Trim              | 1.24          | 0.00*        |
| N/A          | Cut Loss              | 0.21          | 0.00*        |
| <b>TOTAL</b> |                       | <b>100.00</b> | <b>0.00*</b> |

\*No Select Butt Tenders were fabricated in this study

**MEAN CUTTING TIMES (IN SECONDS) FROM BUTT TENDER STRATIFIED  
BY QUALITY GRADE**

| TIMES             | QUALITY GRADE |              |
|-------------------|---------------|--------------|
|                   | Choice        | Select       |
| Box to Table      | 6.40          | 0.00*        |
| Pretrim           | 0.00          | 0.00*        |
| Cutting           | 19.80         | 0.00*        |
| Trim & Tray       | 29.63         | 0.00*        |
| Lean Trim         | 2.25          | 0.00*        |
| <b>TOTAL TIME</b> | <b>58.08</b>  | <b>0.00*</b> |

\*No Select Butt Tenders were fabricated in this study

**MEAN PERCENTAGE YIELD VALUES FOR RETAIL CUTS FROM  
TENDERLOIN STRATIFIED BY QUALITY GRADE**

| UPC          | ITEM                  | QUALITY GRADE |               |
|--------------|-----------------------|---------------|---------------|
|              |                       | Choice        | Select        |
| 1390         | Tenderloin Stk., Pld. | 78.02         | 78.75         |
| 1389         | Tenderloin Rst., Pld. | 20.94         | 19.50         |
| 1652         | Lean Trim             | 0.65          | 0.76          |
| 9000         | Fat Trim              | 0.24          | 0.78          |
| N/A          | Cut Loss              | 0.15          | 0.21          |
| <b>TOTAL</b> |                       | <b>100.00</b> | <b>100.00</b> |

**MEAN CUTTING TIMES (IN SECONDS) FROM TENDERLOIN STRATIFIED  
BY QUALITY GRADE**

| TIMES             | QUALITY GRADE |              |
|-------------------|---------------|--------------|
|                   | Choice        | Select       |
| Box to Table      | 5.71          | 6.16         |
| Pretrim           | 0.00          | 0.00         |
| Cutting           | 9.83          | 14.57        |
| Trim & Tray       | 14.08         | 23.79        |
| Lean Trim         | 0.00          | 0.00         |
| <b>TOTAL TIME</b> | <b>29.62</b>  | <b>44.52</b> |

MEAN PERCENTAGE YIELD VALUES FOR RETAIL CUTS FROM TWO  
PIECE TOP SIRLOIN (BUTT PORTION) STRATIFIED BY QUALITY GRADE

| UPC   | ITEM                    | QUALITY GRADE |        |
|-------|-------------------------|---------------|--------|
|       |                         | Choice        | Select |
| 1346  | Top Sirloin Stk., Bnls. | 87.27         | 81.01  |
| 1732  | Cubes for Kabobs        | 7.52          | 11.88  |
| 1652  | Lean Trim               | 2.19          | 6.08   |
| 9000  | Fat Trim                | 2.96          | 0.56   |
| N/A   | Cut Loss                | 0.06          | 0.47   |
| TOTAL |                         | 100.00        | 100.00 |

MEAN CUTTING TIMES (IN SECONDS) FROM TWO PIECE TOP SIRLOIN  
(BUTT PORTION) STRATIFIED BY QUALITY GRADE

| TIMES        | QUALITY GRADE |        |
|--------------|---------------|--------|
|              | Choice        | Select |
| Box to Table | 7.04          | 8.65   |
| Pretrim      | 5.65          | 7.67   |
| Cutting      | 16.46         | 24.24  |
| Trim & Tray  | 12.87         | 27.63  |
| Lean Trim    | 9.36          | 16.64  |
| TOTAL TIME   | 51.38         | 84.83  |

MEAN PERCENTAGE YIELD VALUES FOR RETAIL CUTS FROM TWO  
PIECE TOP SIRLOIN (CAP PORTION) STRATIFIED BY QUALITY GRADE

| UPC  | ITEM         | QUALITY GRADE |               |
|------|--------------|---------------|---------------|
|      |              | Choice        | Select        |
| N/A  | Cap Stk.     | 82.36         | 76.40         |
| 1652 | Lean Trim    | 17.64         | 23.22         |
| 9000 | Fat trim     | 0.00          | 0.00          |
| N/A  | Cut Loss     | 0.00          | 0.38          |
|      | <b>TOTAL</b> | <b>100.00</b> | <b>100.00</b> |

MEAN CUTTING TIMES (IN SECONDS) FROM TWO PIECE TOP SIRLOIN  
(CAP PORTION) STRATIFIED BY QUALITY GRADE

| TIMES             | QUALITY GRADE |              |
|-------------------|---------------|--------------|
|                   | Choice        | Select       |
| Box to Table      | 9.73          | 6.51         |
| Pretrim           | 0.00          | 0.00         |
| Cutting           | 18.01         | 34.44        |
| Trim & Tray       | 10.67         | 15.90        |
| Lean Trim         | 14.77         | 17.68        |
| <b>TOTAL TIME</b> | <b>53.18</b>  | <b>74.53</b> |



**MEAN PERCENTAGE YIELD VALUES FOR RETAIL CUTS FROM DENUDED  
INSIDE ROUND STRATIFIED BY QUALITY GRADE**

| UPC          | ITEM                  | QUALITY GRADE |               |
|--------------|-----------------------|---------------|---------------|
|              |                       | Choice        | Select        |
| 1475         | Top Round Rst.        | 33.54         | 33.70         |
| 1464         | Top Round Stk.        | 41.81         | 44.38         |
| N/A          | London Broil          | 14.52         | 12.95         |
| 1479         | Top Round Cubes, Med. | 1.58          | 1.21          |
| 1652         | Lean Trim             | 7.29          | 6.68          |
| 9000         | Fat Trim              | 1.10          | 0.97          |
| N/A          | Cut Loss              | 0.16          | 0.11          |
| <b>TOTAL</b> |                       | <b>100.00</b> | <b>100.00</b> |

**MEAN CUTTING TIMES (IN SECONDS) FROM DENUDED INSIDE ROUND  
STRATIFIED BY QUALITY GRADE**

| TIMES             | QUALITY GRADE |               |
|-------------------|---------------|---------------|
|                   | Choice        | Select        |
| Box to Table      | 8.85          | 8.01          |
| Pretrim           | 0.00          | 0.00          |
| Cutting           | 41.17         | 47.59         |
| Trim & Tray       | 55.91         | 61.88         |
| Lean Trim         | 36.45         | 27.62         |
| <b>TOTAL TIME</b> | <b>142.38</b> | <b>145.10</b> |

**MEAN PERCENTAGE YIELD VALUES FOR RETAIL CUTS FROM EYE OF  
ROUND STRATIFIED BY QUALITY GRADE**

| UPC  | ITEM              | QUALITY GRADE |               |
|------|-------------------|---------------|---------------|
|      |                   | Choice        | Select        |
| 1500 | Eye of Round Rst. | 69.19         | 70.67         |
| 1501 | Eye of Round Stk. | 27.42         | 25.91         |
| 9000 | Fat Trim          | 3.17          | 3.27          |
| N/A  | Cut Loss          | 0.22          | 0.15          |
|      | <b>TOTAL</b>      | <b>100.00</b> | <b>100.00</b> |

**MEAN CUTTING TIMES (IN SECONDS) FROM EYE OF ROUND  
STRATIFIED BY QUALITY GRADE**

| TIMES             | QUALITY GRADE |              |
|-------------------|---------------|--------------|
|                   | Choice        | Select       |
| Box to Table      | 6.35          | 7.68         |
| Pretrim           | 9.64          | 9.48         |
| Cutting           | 7.14          | 8.63         |
| Trim & Tray       | 10.63         | 10.66        |
| Lean Trim         | 0.00          | 0.00         |
| <b>TOTAL TIME</b> | <b>33.76</b>  | <b>36.45</b> |

MEAN PERCENTAGE YIELD VALUES FOR RETAIL CUTS FROM HEEL-OUT  
ROUND (KNUCKLE PORTION) STRATIFIED BY QUALITY GRADE

| UPC  | ITEM              | QUALITY GRADE |               |
|------|-------------------|---------------|---------------|
|      |                   | Choice        | Select        |
| 1511 | Tip Rst., Cap Off | 39.20         | 41.99         |
| 1520 | Tip Stk., Cap Off | 44.11         | 44.67         |
| 1529 | Tip Cubes, Med.   | 8.34          | 5.68          |
| 1652 | Lean Trim         | 6.98          | 6.21          |
| 9000 | Fat Trim          | 1.26          | 1.25          |
| N/A  | Cut Loss          | 0.11          | 0.20          |
|      | <b>TOTAL</b>      | <b>100.00</b> | <b>100.00</b> |

MEAN CUTTING TIMES (IN SECONDS) FROM HEEL-OUT ROUND  
(KNUCKLE PORTION) STRATIFIED BY QUALITY GRADE

| TIMES             | QUALITY GRADE |              |
|-------------------|---------------|--------------|
|                   | Choice        | Select       |
| Box to Table      | 6.87          | 7.62         |
| Pretrim           | 0.00          | 0.00         |
| Cutting           | 21.11         | 18.17        |
| Trim & Tray       | 16.21         | 15.78        |
| Lean Trim         | 27.12         | 15.08        |
| <b>TOTAL TIME</b> | <b>71.31</b>  | <b>56.65</b> |

MEAN PERCENTAGE YIELD VALUES FOR RETAIL CUTS FROM HEEL-OUT  
ROUND (ROUND PORTION) STRATIFIED BY QUALITY GRADE

| UPC  | ITEM              | QUALITY GRADE |               |
|------|-------------------|---------------|---------------|
|      |                   | Choice        | Select        |
| 1484 | Rump Rst., Bnls.  | 9.26          | 9.23          |
| 1443 | Round Stk., Bnls. | 42.77         | 50.97         |
| 1501 | Eye of Round Stk. | 11.39         | 3.36          |
| 1475 | Top Round Rst.    | 11.17         | 10.55         |
| 1457 | Round Cubes, Med. | 3.48          | 4.71          |
| 1652 | Lean Trim         | 11.72         | 10.15         |
| 9000 | Fat Trim          | 10.01         | 10.85         |
| N/A  | Cut Loss          | 0.20          | 0.18          |
|      | <b>TOTAL</b>      | <b>100.00</b> | <b>100.00</b> |

MEAN CUTTING TIMES (IN SECONDS) FROM HEEL-OUT ROUND  
(ROUND PORTION) STRATIFIED BY QUALITY GRADE

| TIMES             | QUALITY GRADE |               |
|-------------------|---------------|---------------|
|                   | Choice        | Select        |
| Box to Table      | 9.13          | 9.89          |
| Pretrim           | 24.80         | 12.86         |
| Cutting           | 56.09         | 62.08         |
| Trim & Tray       | 265.32        | 262.08        |
| Lean Trim         | 156.70        | 174.74        |
| <b>TOTAL TIME</b> | <b>512.04</b> | <b>521.65</b> |

MEAN PERCENTAGE YIELD VALUES FOR RETAIL CUTS FROM PEELED  
KNUCKLE STRATIFIED BY QUALITY GRADE

| UPC  | ITEM              | QUALITY GRADE |               |
|------|-------------------|---------------|---------------|
|      |                   | Choice        | Select        |
| 1511 | Tip Rst., Cap Off | 46.79         | 44.34         |
| 1520 | Tip Stk., Cap Off | 39.12         | 41.40         |
| 1529 | Tip Cubes, Med.   | 8.90          | 7.27          |
| 1652 | Lean Trim         | 3.96          | 5.61          |
| 9000 | Fat Trim          | 1.19          | 1.28          |
| N/A  | Cut Loss          | 0.04          | 0.10          |
|      | <b>TOTAL</b>      | <b>100.00</b> | <b>100.00</b> |

MEAN CUTTING TIMES (IN SECONDS) FROM PEELED KNUCKLE  
STRATIFIED BY QUALITY GRADE

| TIMES             | QUALITY GRADE |              |
|-------------------|---------------|--------------|
|                   | Choice        | Select       |
| Box to Table      | 6.93          | 7.13         |
| Pretrim           | 0.00          | 0.00         |
| Cutting           | 16.55         | 16.61        |
| Trim & Tray       | 14.77         | 14.81        |
| Lean Trim         | 28.25         | 33.16        |
| <b>TOTAL TIME</b> | <b>66.50</b>  | <b>71.71</b> |

**MEAN PERCENTAGE YIELD VALUES FOR RETAIL CUTS FROM PEELED  
KNUCKLE (INNOVATIVE CUT) STRATIFIED BY QUALITY GRADE**

| UPC  | ITEM            | QUALITY GRADE |               |
|------|-----------------|---------------|---------------|
|      |                 | Choice        | Select        |
| N/A  | Tip Eye Rst.    | 23.38         | 22.98         |
| N/A  | Tip Wafer Stk.  | 24.26         | 23.06         |
| 1529 | Tip Cubes, Med. | 21.95         | 21.43         |
| 1652 | Lean Trim       | 27.42         | 32.53         |
| 9000 | Fat Trim        | 0.92          | 0.00          |
| N/A  | Cut Loss        | 0.07          | 0.00          |
|      | <b>TOTAL</b>    | <b>100.00</b> | <b>100.00</b> |

**MEAN CUTTING TIMES (IN SECONDS) FROM PEELED KNUCKLE  
(INNOVATIVE CUT) STRATIFIED BY QUALITY GRADE**

| TIMES             | QUALITY GRADE |               |
|-------------------|---------------|---------------|
|                   | Choice        | Select        |
| Box to Table      | 7.84          | 7.78          |
| Pretrim           | 0.00          | 0.00          |
| Cutting           | 170.71        | 139.97        |
| Trim & Tray       | 33.65         | 42.83         |
| Lean Trim         | 83.05         | 38.26         |
| <b>TOTAL TIME</b> | <b>295.25</b> | <b>228.84</b> |

**MEAN PERCENTAGE YIELD VALUES FOR RETAIL CUTS FROM ROUND  
FLAT STRATIFIED BY QUALITY GRADE**

| UPC  | ITEM              | QUALITY GRADE |               |
|------|-------------------|---------------|---------------|
|      |                   | Choice        | Select        |
| 1487 | Bottom Round Rst. | 30.27         | 26.81         |
| 1488 | Bottom Round Stk. | 37.35         | 38.53         |
| 1484 | Rump Rst., Bnls.  | 19.83         | 19.08         |
| 1652 | Lean Trim         | 9.01          | 9.40          |
| 9000 | Fat Trim          | 3.35          | 6.10          |
| N/A  | Cut Loss          | 0.19          | 0.08          |
|      | <b>TOTAL</b>      | <b>100.00</b> | <b>100.00</b> |

**MEAN CUTTING TIMES (IN SECONDS) FROM ROUND FLAT STRATIFIED  
BY QUALITY GRADE**

| TIMES             | QUALITY GRADE |               |
|-------------------|---------------|---------------|
|                   | Choice        | Select        |
| Box to Table      | 7.32          | 7.61          |
| Pretrim           | 19.46         | 20.17         |
| Cutting           | 38.01         | 41.38         |
| Trim & Tray       | 97.97         | 123.10        |
| Lean Trim         | 29.23         | 37.83         |
| <b>TOTAL TIME</b> | <b>191.99</b> | <b>230.09</b> |