Respectively, Extension Livestock Specialist and Extension Beef Specialist, Department of Extension Animal Sciences and Natural Resources, New Mexico State University.

The COVID-19 pandemic has resulted in an abrupt and dynamic change in how food reaches the consumer’s table. Prior to the crisis, restaurants and food service represented approximately 54% of food consumed in the United States (USDA, 2018). In the immediate aftermath of the crisis, restaurants experienced on average a 40% drop in revenue in a 30-day window (Dixon, 2020). With the combination of closures of restaurant businesses and school meal services, bulk product deliveries dropped by an estimated 60% (Huffstutter, 2020). Processors have been unable to adapt to the changes in demand for smaller packaging and increased delivery to retail outlets. As a result, meat shelves have become bare in some areas. To compound the issue, several large processing facilities have been closed due to plant employees testing positive for COVID-19. The unstable supply chain has caused a dramatic drop in the market value of live animals, milk, and grain products.

In order for cattle producers to weather the storm, they are looking for alternative ways to market their beef. This publication will provide information that will help both producers and their customers become educated in direct beef sales off the ranch or farm. Before this can take place, it is important to understand the regulations that are in place in order to maintain animal welfare and food safety standards.

**INSPECTION CRITERIA**

**Federal Inspection**

The Food Safety and Inspection Service (FSIS) is an agency under the U.S. Department of Agriculture’s umbrella that is charged with inspecting food intended for human consumption through retail and restaurant outlets. This is a federal law,
under the Federal Meat Inspection Act. All of the larger commercial meat processing plants that sell their products to the general public are required to have USDA inspection and Hazard Analysis Critical Control Point (HACCP) management plans in place.

**State Inspection**

If meat products are produced and processed within a state, they may be exempt from federal inspection. However, a state inspection is required through the individual state’s meat and poultry inspection program. This program is still monitored by FSIS, but it allows smaller processing facilities to serve their local communities. Meat inspected by a state’s inspection system can be sold within the state but not to customers in other states.

In New Mexico, state inspection was replaced with federal inspection in 2007. In 2013, Title 21, Chapter 33, Part 2 of NMAC, Food Safety, Meat and Poultry Inspection, was repealed; the New Mexico Livestock Board no longer maintains inspections of meat products or meat processing facilities. Thus, meat sold within New Mexico must be from FSIS-inspected facilities.

**Custom Exemption**

Custom exemption is the most common practice used by smaller meat processing facilities. People are allowed to have their own animals custom processed, provided it is for personal use only. The processor will package the meat according to the customer’s specifications. It is prohibited to sell this meat to the public, and packaging from custom processors must be labeled not for sale. It should be noted that even though custom processors are not subject to federal inspection, they are still required to follow food safety guidelines.

**Personal/Individual Use Exemption**

The personal/individual use exemption allows people to slaughter their own livestock solely for family use.

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### MEAT MARKETING OPTIONS FOR LIVESTOCK

1. **Have livestock harvested at a USDA-FSIS-inspected plant.**
   a. If this can be arranged, it will allow the producer to build a label and sell their product to restaurants, retail stores, and farmers’ markets beyond state borders.

2. **Have livestock harvested at a state-inspected plant.** *(Currently not an option in New Mexico.)*
   a. This option allows producers to sell their products within state borders direct to the consumer or at farmers’ markets. Local restaurants and retail are also allowed to sell meat that has been raised within the state and harvested through state-inspected plants.

   **CONSIDERATIONS:** Owner assumes all risk and costs associated with processing. Having an inspection label helps, but does not fully protect owners from all liabilities.

3. **Custom exemption.**
   a. This exemption allows for some creative options for producers. If they sell the animal live to their customer, it is still permissible to market their “meat.” Below is a scenario to sell multiple animals from ranch to processing.
      i. Sell animal based on live price*. This can be broken down into either full carcasses, halves, or quarters. *Price should be based on estimated animal weight and current market price or added value price of the animal.
      ii. The sale transaction must take place before harvest.
      iii. The producer generally delivers the animal to the processing plant, but liabilities and costs of processing are the responsibility of the customer.

   **CONSIDERATIONS:** Most of your customers will have limited experience purchasing meat in this manner. It is important to make sure the customer is fully aware of all the expenditures associated with carcass processing, and what to expect in terms of total cuts and pounds. A good rule of thumb is the carcass will weigh approximately 60% of the live weight (this will vary based on intestinal tract fill and amount of carcass fat and muscling). The amount of take-home product will be approximately 70% of the carcass weight (this will vary depending on amount of fat trim and boneless versus bone-in cuts). Therefore, a 1,000-pound steer should yield 420 pounds of take-home product (1,000 × 60% × 70%). It is recommended that you show the customer the total cost per pound of product (meat plus processing) when you invoice them since this is the format they are accustomed to when buying meat.
SCENARIO: Rancher sells a 1,000-lb steer to two people at $1.10 per pound ($1,100 total). Each person pays $550.00 for the live animal.

Processing costs:
1,000-lb steer has a carcass weight of 600 lb
(1,000 × 0.60)
Average processing rate = $1.50/lb
600-lb carcass × $1.50 = $900.00
Each customer will pay $450.00 for processing
After carcass has been processed and packaged,
net weight of product = 420 lb (600 lb × 0.70)
Each customer will get 210 lb of beef (420 ÷ 2)

Customer costs:
Live animal = $1,100.00
Processing = $ 900.00
TOTAL = $2,000.00 (or $1,000.00 per customer)

Cost per pound:
$2,000.00/420 total lb of product = $4.76/lb

If you back calculate, you can price the live animal to best match retail prices, maximizing profits per animal.

It is also important that you and your customers know what to expect in terms of meat products and subsequent freezer space required. A rule of thumb is one cubic foot of freezer space for each 35–40 pounds of cut and wrapped meat. Typical beef cattle will have approximately 63% dressing percentage (carcass weight to live weight), but dressing percentage can be impacted by several factors. Table 1 provides examples of live weight versus carcass weight in a few different scenarios.

Table 1. Expected Carcass Weights in Different Types of Beef

<table>
<thead>
<tr>
<th>Live weight (lb)</th>
<th>Avg. carcass weight (lb)</th>
<th>Heifer carcass weight (lb)</th>
<th>Poorly muscled/excessive fat</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,200</td>
<td>756</td>
<td>732</td>
<td>660</td>
</tr>
<tr>
<td>1,100</td>
<td>693</td>
<td>671</td>
<td>605</td>
</tr>
<tr>
<td>1,000</td>
<td>630</td>
<td>610</td>
<td>550</td>
</tr>
</tbody>
</table>

Table 2. Yield Grade Effects on Pounds of Meat

<table>
<thead>
<tr>
<th>Yield grade 1</th>
<th>Yield grade 2</th>
<th>Yield grade 3</th>
<th>Yield grade 4</th>
<th>Yield grade 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>756-lb carcass</td>
<td>600–650 lb</td>
<td>582 lb</td>
<td>544 lb</td>
<td>506 lb</td>
</tr>
<tr>
<td>693-lb carcass</td>
<td>550–600 lb</td>
<td>533 lb</td>
<td>498 lb</td>
<td>464 lb</td>
</tr>
<tr>
<td>630-lb carcass</td>
<td>500–550 lb</td>
<td>485 lb</td>
<td>453 lb</td>
<td>422 lb</td>
</tr>
</tbody>
</table>

Yield grade will then impact the pounds of retail cuts that are generated from the carcass. Yield grade is a scale of 1 to 5, with 1 being the least amount of fat and 5 being the most. Table 2 shows the impacts of yield grade on pounds of retail meat (bone-in). It is important to note that bone may account for 150–200 pounds of meat weight shown in Table 2.

Communication is key to repeat business. Explaining how much meat and its costs is important, however, it may also be helpful to let them know how many cuts and pounds of hamburger they can expect in the meat bundles (Figure 1). These bundles can vary due to preference. This flexibility may be an appealing aspect to the customer. Most will opt for maximum steak cuts, with the balance distributed between hamburger and roasts.

Figure 1. Carcass breakdown into primal cuts. (Adapted from the New Mexico Beef Council for New Mexico State University.)
Beef quality is another discussion to have with your customers. Some may already appreciate the difference between Prime, Choice, Select, etc., but many don’t understand the characteristics that make up quality grade determination. This is an opportunity to explain how marbling and tenderness can impact quality grade. If animals are not inspected through the FSIS system, quality grades are generally not applied, so customers should not expect this type of classification on the meat they purchase directly.

The animal’s diet can also play a role in marbling and tenderness. The majority of animals sold directly off the farm or ranch will likely come right off pasture. In that scenario, marbling may be less than what the customers are accustomed to. Cattle that have not been fed an appreciable amount of grain will also have a slightly different taste. More and more, customers want to know where their food is coming from and how it’s raised. Selling beef right off the farm or ranch allows producers to get feedback directly from their customers. There is no substitute for fresh beef. Selling beef off the ranch utilizing the custom exemption option is a great way to develop new customers in your community.

Things to consider for producers selling meat direct to consumers:

• Listen to the consumer’s needs and wants.
• Provide some kind of service for the consumer they won’t get elsewhere, such as delivery or information about your operation and animals.
• When pricing the meat, producers need to consider opportunity costs. If it is raised on the ranch, what would the calf or yearling bring in revenue if it weren’t sold as meat? This impacts the selling price.
• What is it about your beef that makes a customer want to buy it? Why it is unique? Tell your story and capitalize on it.
• Processor capacity will be the biggest limitation for producers. Due to the low number of local processors and the recent spike in demand, it could be several weeks or months before you can schedule a harvest date.

REFERENCES

Marcy Ward is the Extension Livestock Specialist at NMSU. She received her B.S. and M.S. in animal science from Colorado State University and NMSU, respectively, and her Ph.D. in ruminant nutrition from North Dakota State University. She was most recently the Beef Program Director at Colby Community College in Colby, KS.