



# Building a Meat Processing Facility

## Considerations to help you get started

Christina Bakker, Ph. D | Assistant Professor and SDSU Extension Meat Science Specialist

Amanda Blair, Ph.D. | Professor and SDSU Extension Meat Science Specialist



**SOUTH DAKOTA STATE  
UNIVERSITY EXTENSION**

Department of **Animal Science**  
College of **Agriculture, Food and Environmental Sciences**



## Business planning

- Do your market research. Do not assume that your area needs a meat processing facility simply because there isn't one. Ensure there is a need for your business before moving forward.
  - When polling potential customers ask questions about past needs, not future speculation. Asking "Have you ever needed or wanted somewhere to purchase locally processed beef?" will get you a more accurate answer than "Would you go to my new butcher shop to buy your beef?".
- Define who your customers are. Are you planning on having a custom exempt plant that only provides slaughter and processing services? Do you have customers who want to direct market retail cuts? Will you have a retail store to sell meat yourself?
  - Ask yourself if the customers you identified will be able to supply enough animals year round. If they can't, how will you supplement business during the slow times of the year?
- Conduct a SWOT analysis of your business idea. Determine the internal strengths and weaknesses of your business model as well as the external opportunities and threats.
  - A **Strength** could be niche qualities of your products (high marbling, local, grass fed, etc.).
  - A **Weakness** could be lack of meat processing knowledge.
  - An **Opportunity** could be the desire of customers to have access to locally processed meat.
  - A **Threat** could be business competitors who operate in the same area with the same products and services.
- Your local Small Business Development Center (SBDC) can help you with research and industry benchmark comparisons, developing a business plan, and financial analysis and projections. All of these things are necessary to take to a lender when you are looking for a loan.
  - In this 40 minute video, Nick Fickbohm with the South Dakota SBDC discusses the resources of the SBDC provides to individuals interested in starting or improving their businesses [www.youtube.com/watch?v=OcCaZPNP\\_5A](https://www.youtube.com/watch?v=OcCaZPNP_5A)

## Financing

- The focus on enhancing the small meat processing industry has led to several financing opportunities. Many of the federal grants and loans can be found through USDA Rural Development (RD). Some opportunities are one time grants while programs are offered annually. Contact your local USDA RD office for more information on availability and to check your eligibility.
- Federal grant and financial options, including USDA RD programs, can be found at [www.fsis.usda.gov/inspection/apply-grant-inspection/grants-financial-options](http://www.fsis.usda.gov/inspection/apply-grant-inspection/grants-financial-options).
- In South Dakota, there are also grant and loan opportunities that may be available through the Governor's Office of Economic Development. Information on these grants and loans can be found at [sdgoed.com/partners/financing-incentives/](http://sdgoed.com/partners/financing-incentives/)
- Private business loans and seeking out investors are also options. Be sure to speak with several lending institutions before making any decisions to ensure you are getting the best deal possible.

## Inspection

- The type of inspection you will need is determined by your business goals. If you wish to only provide a slaughter service to your customers, your business can be custom exempt. If you wish to sell the products from animals you slaughter, you will need to be state or federally inspected.
- There are 29 states that operate meat inspection programs, and 25 of those also have poultry inspection. You can find a list of states with state inspection programs at [www.fsis.usda.gov/inspection/apply-grant-inspection/state-inspection-programs/states-and-without-inspection-programs](http://www.fsis.usda.gov/inspection/apply-grant-inspection/state-inspection-programs/states-and-without-inspection-programs).
  - If you are from a state that does not have a state inspection program, you will need to apply for a grant of inspection from USDA Food Safety Inspection Service (FSIS).
  - If you are from a state that does have a state inspection program, you have the choice of state or federal inspection.
- There are 10 states that participate in the Cooperative Interstate Shipping (CIS) program which allows them to be state inspected, but ship select products across state lines.
- The difference between state and federal inspection is that federal (also called USDA) inspection allows for products to be sold across state lines and exported. State inspected product needs to be sold within the borders of the state in which it was inspected. This means that if you plan to ship your product to other states as part of a mail order service, you will need to have a federal grant of inspection. If you only have retail sale counters located within one state, you can be state inspected. More information on inspection can be found at [extension.sdstate.edu/meat-inspection-south-dakota-requirements-and-resources-processing-and-selling-meat](http://extension.sdstate.edu/meat-inspection-south-dakota-requirements-and-resources-processing-and-selling-meat)



*South Dakota Food Inspection Stamp on a piece of meat.*

## Fixed Facilities

- While it may be tempting to hire the construction company that gives you the cheapest bid on the construction of a new plant, it is important that you chose someone with experience building food processing plants or hire another company to consult on the requirements of the building. There are many regulations surrounding the materials that can be used, water and drainage systems, refrigeration, and the overall process flow of the facility of which many general contractors are unaware.
- Facilities must meet or exceed the standards for sanitation set forth by the Code of Federal Regulation, Subchapter E, Part 416.2 found here [www.ecfr.gov/current/title-9/chapter-III/subchapter-E/part-416](http://www.ecfr.gov/current/title-9/chapter-III/subchapter-E/part-416).
- Once you decide the inspection status you wish to achieve, you will know what agency guidelines you need to meet for facility specifications.
- It will also be important to determine what your power needs will be. Many pieces of meat processing equipment require 3-phase power.
- Ceiling heights need to be appropriate for the size of carcasses you anticipate processing. If you intend to hang beef sides, the rails need to be higher than if you are hanging beef quarters and pork or lamb carcasses.
- Refrigeration and freezer units need to be commercial grade. Utilizing home refrigerators, deep freezers, and other household grade products is unacceptable and they will not chill meat products effectively.
- You should be able to access your coolers and freezers from inside your facility. Cold storage that is not connected to your main facility can be difficult to get past inspection

## Utilities

- Does your facility site have the appropriate zoning, and can you obtain the necessary permits at the local, state, and federal levels?
  - Many meat processing facilities face opposition based on proposed location. Disgruntled neighbors, environmental activists, businesses, and other citizens may file complaints and civil lawsuits if they are against where the plant will be built. Don't assume rural America will always be in support of new business ventures.
- If you are in a rural area (i.e. you want to open a business on your farm or ranch), do you have the ability to get 3-phase power, potable water, and sewer/wastewater disposal?
- What will you do with inedible products? Rendering requires a company to be willing and able to come pick up inedible products. Composting comes with its own set of regulations and permits; you also need a location for the compost pit. Depending on location, you may be able to take inedible materials to the local dump. This can become expensive when you factor in the time and money necessary to maintain a truck and to take the product to the dump. Will your location allow for the use of an incinerator and is it fiscally responsible to install one? Waste disposal can become a large, sometimes forgotten cost when designing a processing facility.

## Mobile Slaughter Units

- ❑ Mobile slaughter units (MSUs) can be a way to reduce capital costs of meat processing facilities. They are eligible for state or federal inspection, and they can be a way to reduce pre-slaughter transportation stress on the animals.
- ❑ Many MSUs have an area for slaughter processing and a cooler unit, but not a fabrication area, so a fixed facility may still be necessary. However, that facility can be much smaller without the need for a slaughter floor.
- ❑ When a MSU is operating under inspection, a tested, potable water source is required. Some MSUs have water tanks on board that they fill with their own water for their slaughter needs but they need to return to a home base for cleaning and sanitation. Water can be sourced from the slaughter location if it has met all testing requirements.
- ❑ Mobile slaughter units are held to the same sanitation standards as other inspected meat processing facilities, so a location to clean the unit is necessary.
- ❑ As with other facilities, insects and other pests are zero tolerance items. Any pests that enter the unit during inspected activities must be disposed of before continuing.
- ❑ One caveat of operating an MSU is the liability and risk that is taken every time the unit is on the road. In the case of an accident, the unit can be totaled, and the business would come to a standstill. Proper insurances and licensing are critical to protecting your business.



*Mobile Slaughter Unit.*

## Equipment

- ❑ When it comes to determining what equipment to put in your facility, shop around. You do not need to buy all of your equipment from one supplier.
- ❑ Equipment is a large capital investment and you want to make sure you are buying equipment that will be able to handle the volume of product you anticipate you will process and leave some room for scaling up.
- ❑ Take into consideration service plans and support. Some companies offer set up options when you purchase their equipment where a technician will come to your business and teach you how to run the equipment. These companies may charge more for the equipment, but the extra service may be worth the extra cost.
- ❑ If buying used, consider useful life and replacement parts. It is tempting to buy secondhand equipment to save some money. However, if the equipment came from a company that is out of business or if they no longer make parts for that model, you may end up spending more money in the long run when you have to buy a replacement.
- ❑ Consider the labor savings associated with upgraded equipment. For example, certain packaging machines can replace the need for several employees allowing you to have fewer employees or to have those employees free to do other jobs. As labor is sometimes hard to find, an extra investment in equipment may pay for itself over a few years.
- ❑ Invest in ergonomic equipment. Hide pullers, hoists, and trolley lifts reduce amount of physical strain put on employees as they do their job. This reduces fatigue and can help keep work related injuries at bay. They can also help to improve employee morale by making jobs easier and more enjoyable.

## Resources

- There are several companies that provide support throughout the process of business planning to the start of operations and beyond. While working with these companies might carry a larger price tag, their expertise and insight are invaluable to preventing costly mistakes in construction and helping to determine the volume of product you need to move to make your business cash flow.
- The American Association of Meat Processors and state affiliates are great resources to connect with successful meat processors willing to provide advice. Both the American Association and the state affiliates host annual conventions where processors, suppliers, and industry experts get together to share knowledge move the industry forward.
- University Extension Specialists are great resources for information. Some specialize in Hazard Analysis Critical Control Points (HACCP) which is the standard meat safety program in the meat industry. All inspected facilities are required to have HACCP plans. Extension Specialists also have information on contacts for a variety of topics such as inspection, grants and loan programs, and educational programs.

## Labor

- Contact your state Department of Labor and Regulation. They can aid in writing job postings, familiarize you with legal matters concerning employees, discuss job training assistance programs and apprenticeships, and much more.
- Have a plan for where you will source employees. Meat processing is not a “build it and they will come” type of a job. Butchery is a skilled job that takes time to learn and master, and you will need to have people who know what they are doing at the start of operations. Do not assume you will be able to find your employees after you have started the business.



*A butcher cutting fat off of a meat cut.*

- Several technical schools have developed butchery programs that you may be able to source employees from, but you will need to start your recruitment process early.
- If you are looking for places to have an employee trained, contact your state Meat Processors Association or the American Association of Meat Processors. They may be able to connect you with plants who would be willing to take on an intern or short term employee.
- Short courses are great for being introduced to skills, but do not expect to become proficient after attending one short course. Many of these skills take a lot of repetition to make it second nature.

Acknowledgment: This project was made possible by a grant from North Central Sustainable Agriculture Research & Education (Project # ONC21-084) and supported by South Dakota State University Extension.

SDSU Extension is an equal opportunity provider and employer in accordance with the nondiscrimination policies of South Dakota State University, the South Dakota Board of Regents and the United States Department of Agriculture.

Learn more at [extension.sdstate.edu](https://extension.sdstate.edu).

© 2023, South Dakota Board of Regents