

Clearwater Economic Development Association
Grant administrator
For the
Greater Palouse Meat Producers
Slaughter Facility Concept Design Study

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By

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Start where you are Use what you have Do what you can

Beginning with the end in mind, the vision statement of the Greater Palouse Meat Producers is to: “Develop a cooperative entity among local producers and processors that enhances the current outcomes and adds USDA-inspected slaughter for broader salability of products and allows the local agricultural community to grow and become rich and abundant. This will provide local consumers access to locally raised meat.”

Summary A producer cooperative is not recommended. It appears that there is not adequate interest or “critical mass” necessary to financially support a GPMP USDA slaughter and processing facility as a cooperative association.

This conclusion is based on the general lack of local livestock producer turnout and interest from adequately publicized Greater Palouse Meat Producer (GPMP) kickoff meetings, the first held in Lewiston and the second in Moscow, ID, as well as additional information garnered from GPMP board meetings, individual producer conversations, pertinent university reports, and general agricultural industry realities, it is recommended that a stand-alone USDA slaughter (and processing) facility managed or supplied by the GPMP and its members is not feasible.

Yet, an opportunity exists and profit can be generated by the savvy entrepreneur who assimilates strong links in the supply chain and exhibits the tenacity to see efforts through the startup phase to a mature and successful business enterprise.

Market Potential

Small producers and processors must differentiate their products from the industry. By comparison, if the big packers (they) sell grain fed beef, the very small establishment (we) sell grass fed; when they sell non-organic, we sell organic; when they work from high volumes and low margins, we work from low volumes and high margins; when they sell and distribute to national and international markets, we sell to local markets with little to no distribution; when they sell wholesale, we sell retail; when they add little value (boxed beef), we add more value (case-ready, smoked, cured, sausages); when they invest in multi-million dollar plants, we invest in “mom and pop” infrastructure; when they create brand loyalty with an professionally crafted family farm story, we are the story. We can best gain market share by differentiating as

far from them as possible.

Demand for local meats is strong and growing. However, delivering a consistent quality product with unique attributes at reasonable price points is far more challenging.

“Sales are the engine that pulls production and processing, not the other way around.”

Do you know your potential market? If not, find out before continuing!

Element #1 – GPMP Slaughter Facility

Contractor will identify research and recommend the appropriate scale and variety of operations for a USDA certified slaughter facility that would meet the needs of the area producers. Contractor will identify; research and recommend an effective and efficient plan and process design to meet market needs. Consideration should be given to needed equipment and processes.

Meat Processing

For startups and existing establishments who move up the food chain, the order of increasing levels of sophistication and investment in very small meat slaughter and processing is

- ✚ Home processing for personal use (farm slaughter performed by Custom Exempt butcher)
- ✚ Home slaughter and processing
- ✚ Custom Exempt farm slaughter and processing
- ✚ USDA processing only
- ✚ USDA slaughter and processing
- ✚ USDA heat treated and Ready-to-eat products

It is not recommended to shortcut lower levels until proficiency is demonstrated and capital from retained earnings is sufficient for investment in higher levels. While an argument can be made to hire a butcher who is knowledgeable at a given level, and investment capital for infrastructure and equipment can be obtained from external sources, the business owner will need to fully understand the implications and responsibilities of making good on promises to those involved.

Assuming that the home processing business owner is preliminarily equipped and understands the basics of meat cutting, the next logical level is to apply for a Custom Exempt farm slaughter

license from their state governing authority. This enables the owner to sell meat cuts from carcasses in quarters, halves, or wholes direct to customers who have purchased (shares of) animals prior to harvest based on a hanging or carcass weight. Custom Exempt (also known as Farm Slaughter) utilizes a kill truck which travels to the farm and slaughters the animal on site. The carcass is then hauled to a processing facility for cut and wrap per the customers cut sheet instructions. The meat cannot be sold by the cut to any other customer but is sold “retail”. It is advantageous to the business owner since a customer is first “locked in” before production (butchering). Put another way, revenue is secured *before* costs are incurred; when commodity agriculture usually inverts this by producing and *then* “finding” a buyer or a price. Further, there is minimal regulatory oversight and hurdles to overcome when compared with USDA.

Livestock are slaughtered (stunned, bled, skinned, gutted, and split) outside the kill truck. The carcasses are then transported to the processing cooler for aging and eventual cut and wrap. One strategy for investing in equipment with the intention of going to USDA slaughter is to build or purchase a Mobile Slaughter Unit where the animal is skinned, gutted, and split *inside* the facility before transport (stunning and bleeding are allowed outside the unit by USDA).

There are essentially two companies in the United States who manufacture Mobile Slaughter Units. Tri Van in Washington State at 1385 West Smith Road, Ferndale, WA 98248 and Feather Light Trailers in Iowa at Hwy 63 & 9 P.O. Box 320 Cresco, IA 52136. Prices vary depending on size and options but generally fall between \$200,000 and \$300,000 for a unit that can be USDA approved as a slaughter establishment. The price of this equipment investment is usually cost prohibitive for most small meat processing establishments with limited volume unless the purchase price is largely defrayed from some form of grant funding.

Whether the reader chooses to build their own (either self or contracted out) or purchases a turn-key Unit, the equipment required at the slaughter site and within the MSU will be the same.

The author designed, permitted, constructed, and operated a Mobile Slaughter Unit and harvested 6,436 head over a 2 ½ year period using it on average 1 ½ days per week or at approximately 25% capacity. This self-contained MSU was built for approximately 1/3 of the price of a professionally manufactured model and incorporated many innovative design and process upgrades that significantly added to its operational efficiency and affordability.

Consistent meat quality also results from consistent processing practices...

 importance of quality livestock handling to reduce stress at slaughter,

- + carcass chill down that is neither too fast (resulting in cold shortening, or
- + too slow resulting in “sour bone”, but
- + rather a combination of temperatures hot in the first few hours to let the “death enzymes” begin to break down the muscle fibers followed by adequate cooling such that the surface temperature of the carcass is 40 degrees or less 24 hours after slaughter
- + clean aging coolers that do not impart off-odors on the carcass

Types of operations

Processing only The type of operation you choose will depend on the market you wish to sell to and the kinds of services your facility can provide. Processed meats have significant market potential for the small meat facility. Your product offerings can be unique where boxed beef, for instance, will be just about the same from anyone. Value-added processing is a very good outlet for beef and pork trim that would otherwise go into less profitable ground product. A good sausage with a unique flavor and texture will give you a sales advantage. Always strive for quality and build your reputation on that.

If you choose processing only, you can eliminate the investment in a kill floor and the additional regulatory requirements associated with slaughter. The savvy butcher may be able to purchase livestock of lesser quality and turn them into a profit center on its own—especially during the slower times of the year. When establishing a sausage and specialty meats business, plan ahead to fine tune recipes and get labels for multiple ingredient products approved. A smokehouse, curing room, and smoked meats cooler will probably offer the highest return of any meat processing investment, but space must be allocated in the floor plan it incorporate these activities.

In addition to processing for your own label, a profitable opportunity exists to custom process for others. Custom here can describe Custom Exempt processing in an USDA approved establishment—which is allowed so long as there is separation in time and space of inspected to non-inspected product and which is processed only after inspected—and USDA inspected custom for clients who wish to sell individual cuts under their own label directly to the public at a farmers market, for instance.

If you decide to custom cure and process meats supplied by a Custom Exempt farm slaughter supplier, be sure that you don’t guarantee the quality since aspects of the process are outside of your control. As an example, if the carcass was not chilled properly it can develop “sour bone” which may not be part of your operation. Not your problem. As insurance, be sure that

the internal temperature is taken or documented on carcasses received at your plant and reject any that are above 40 degrees. Avoid potential problems with customers by instituting sound receiving policies.

Slaughter If USDA slaughter is not available at the time or in the quality or quantity that your new processing business requires, you will need to strongly consider adding a kill floor or Mobile Slaughter Unit to your operations. No carcass, no processing, no business, no good. The butcher who can control the quality of slaughtering as well as post-slaughter handling will be in better position to control the quality of the meat in uniformity and tenderness.

The prospective butcher who wishes to sell by the cut will need to have a USDA inspector present during slaughter activities. USDA inspectors are supplied free of charge for a typical 8 hour work day and as a government employee, are not available on federal holidays.

Coordinating inspection can be a problem unless your plant is large enough to justify a “resident inspector” (near daily kill floor activities). If there are other USDA inspected facilities in a “primary duty location”, it is possible to coordinate kill days for your plant that are not in conflict with kill days at the other plant(s). Be sure to set up identical hours of operation with area plants so relief and primary inspectors can maintain continuity of scheduled shifts under inspection.

USDA slaughter can be all under one roof and one establishment number or, if in separate locations or mobile may be a stand-a-lone establishment supplying carcasses to a processing facility.

The butcher who also slaughters opens other possibilities to create products from edible and inedible offal. Another term for edible offal can be described as “ethnic meats” – a significant market these days. Additionally, pet treats and dog food, chew toys, hides and more all have value which can be captured. It will depend on time and money investments to turn most of the animal into other products but a walk down any grocer pet aisle will tell you that there is an untapped potential market waiting. If the dressing percentage on a 1,250 pound fat steer is 60% that means there remains up to an additional 400 pounds (plus 100 pounds paunch material etc.) of animal protein, bones, blood, organs, and hide to work with. Custom USDA slaughter also gives you the ability to create value from other customer’s “waste”, not just your own.

Slaughter treatments to improve meat quality As with the livestock producer saying, “Don’t guarantee it, unless you raise it”, for the butcher, “Don’t guarantee it, unless you kill it” means that quality can be improved by incorporating some simple tricks and techniques.

For the consumer, there are six meat quality factors; tenderness, juiciness, flavor, aroma, color, and texture. Of these, tenderness is usually considered the most important palatability factor. Tenderness may also be the most elusive for a novice grass fed livestock producer since carcasses from their livestock tend to be older and leaner. It will pay dividends for the small butcher to manage these important carcass quality treatments where possible.

Dry aging Dry aging of beef can increase tenderness by 15-25%. In personal tests, the author found a notable difference between beef that was dry aged 7 days and a slight improvement still for beef that was aged to 14 days. Beyond two weeks the loss of product to trim and drying did not justify aging unless a particular client was willing to pay not only for the meat loss and the added labor for trim, but the cooler space required for longer aging!

A very practical solution to this quantity/quality cost/value tradeoff, which few butcher shops utilize, is to process the carcass the next day or two after slaughter and age only the strip loin on a rack in an aging cooler supplied with a de-humidifier. Many loins can be aged for very little investment in space and cooling capacity. The labor savings by not needing to trim the “bark” off a dried carcass is significant. Meat cuts from the chuck and round do not benefit from aging as do the “middle meats”. And if grass fed carcasses may be leaner, there will be less external fat cover for insulation from fast chilling (cold shortening) as well as excessive drying.

Additionally, those cuts are either sliced thin as in “Carne Asada” or jerky, cooked differently as a roast with higher moisture and lower heat, or the trim is ground. Finally, the biggest savings is in the size of the cooler, the rails, and the cooling equipment and electricity that was not needed -- or that could be used for additional plant throughput. The biggest hurdle is to get this idea past custom clients who are used to the whole carcass being aged. Remember, it’s your business, so they will either have to pay more for this added service or get used to the new policy. There will be no noticeable quality loss provided the small loin aging cooler humidity is monitored and managed—just make sure that proper identification gets the right loin cuts to the right client.

Wet aging Wet aging beef for two to four weeks can increase tenderness by 10-20%. Wet aging requires an airtight vacuum pouch. Vacuum packaging machines and pouches can be expensive compared to cellophane and butcher paper but smaller models are available for a few thousand dollars. There is no shrinkage or product loss, there is no bleeding from product onto other packages and it creates a more professional looking product. Depending on the market you are selling to, eye appeal and being able to view the product may or may not be a factor. Nonetheless, wet aging gives beef a different flavor than dry aging being more “metallic”. Remember that most people are accustomed to this flavor since it is the industry standard. Further, there is the option of dry aging and wet aging the same product.

Enzyme treatment (chemical tenderizers) Enzyme treatments can increase tenderness by 15-40%. Meat is held together by collagen, a protein complex that can make meat tough. Enzyme tenderizers break down this collagen producing a tenderer cut. Tropical plant-based enzymes extracted from papaya (Papain) and pineapple (Bromelain) as well as from figs (Facin) are used. These tenderizers require temperatures as high as 185 degrees to stop the process. Meats cooked to medium rare may not reach this temperature resulting in a mushy texture. Additionally, freezing will not fully stop the tenderization process so these treatments should only be used just before cooking—something to consider if the prospective butcher wishes to create heat-treated Ready-to-Eat products. Keep in mind that organic sources of these tenderizers will need to be on the “approved materials list” or the product may not be able to be certified organic.

Tenderstretch Tenderstretch can increase tenderness from 20-40%. Muscle contraction to the most valuable cuts of meat can be prevented by hanging the carcass not by the Achilles tendon but by the hip bone. This places increased tension on the loin muscle which is now on the *outside* of the curvature during rigor so shortening cannot occur. Another benefit from hanging carcasses in the tenderstretch fashion is that rail—and thus—building height may be lower by a few feet. A typical single rail spacing of three feet if hung vertically can accommodate the tenderstretch. Additionally, carcasses can be hung “hammock style” by the Achilles tendon and front legs using two rails on each side of a truck box as many farm slaughter trucks are configured or from two rails inside a refrigerated container which can be an inexpensive carcass cooler alternative.

Electrical stimulation Electrical stimulation of the carcass can increase tenderness by 15-50%. Electrical stimulation accelerates the onset of rigor mortis. Carcasses are connected to electrical leads and stimulated for up to a minute which contracts the muscles. It is simple, safe, relatively inexpensive, and can be accommodated by most kill floors.

Delayed chilling Delayed chilling can increase tenderness by 10-20%. Contraction of muscles during carcass chilling leads to increased toughness in meat. The USDA requirement is that the surface temperature of the carcass must be 40 degrees or less within 24 hours of slaughter. Most slaughter facilities chill carcasses much more quickly than this Critical Limit. Grass fed beef carcasses which usually have less insulating back fat chill even faster.

The author did not actively chill carcasses for up to approximately 8 hours from slaughter since there was limited cooling capacity in the Mobile Slaughter Unit but ample cooling capacity at the aging cooler of the processing facility. On most days, no refrigeration is needed for some time since the carcass temperature is dropping from 100 degrees to about 70 degrees over the kill shift. This warmer temperature for the first few hours allows the “death enzymes” to aid the

tenderizing process that would be deterred with quicker chilling. This is also a money saving strategy since fans for initial chill down are much less expensive to operate than refrigeration. Just insure that carcasses are within the USDA requirements for time and temp.

Blade or needle tenderization Blade tenderization can increase tenderness by 20-40%.

Obviously, it must be done on a boneless cut to a tougher muscle such as a sirloin, round, or chuck steak. It is a proven method that steakhouses use to insure that every “economy steak” on their menu is tender. Extra sanitary care must be taken to insure cuts and equipment are clean so that pathogens such as E. coli are not spread from the outside of a meat cut to the inside where cooking temperatures may not reach levels of pathogen lethality.

Reemphasis on quality Though the producer has significant influence on the degree of finish quality and consistency for livestock brought to slaughter, the butcher also has many tools to improve quality at his or her disposal. Most butchers do not incorporate these tools because they are not necessarily rewarded for going the extra mile. Go the extra mile anyway.

Small meat packers will not win the high-volume, low-margin game, so don’t play. Instead, the focus should be on what the “big boys” cannot provide; exceptional quality, unique flavor, outstanding service, accountability, transparency, and a product story that can only be told and appreciated locally.

The value of the “drop” Actually, to most small slaughter facilities, the drop not only has no value, but a negative value since the butcher pays to have it removed -- often on the order of several hundred to a few thousand dollars per month. As mentioned earlier, if the prospective butcher decides to slaughter, they should consider adding value to the drop. In beef, the hide comprises the greatest value. The price offered by rendering companies who also collect offal and trim waste varies depending on sex, age, and quality but has rebounded the past few years to around \$30 a piece. Salted and refrigerated, they can be stored for some time for higher volume prices, hide-to-hide, hair-to-hair. But an untapped potential remains to dehair hides and make rawhide dog chew toys and the like.

Edible offal such as the heart, liver, tongue, and tale of beef (not the head due to new regulations after mad cow, but certainly the cheek meat) offer new and different products particularly for ethnic customers. This can add up. In fact, it has been said that the big packers basically breakeven on costs to “break a carcass” but make their real income from the value of a number of other products one would not normally associate with slaughter such as pharmaceuticals, blood and bone meal, cosmetics, and pet food, treats, and toys... The list goes on. While most small slaughter facilities cannot afford to get into many of these markets, they

can certainly get into some -- and using minimal additional or specialized equipment. As an example from the larger packers, review the recent beef and hog drop values in the tables below. The entrepreneurial butcher will most likely find ways to create value and add to his or her bottom line.

At the very least, the butcher should consider composting what is not used if it makes economic sense in his operation. See attachment, "Composting Manual".

Des Moines, IA Tue, Feb 03, 2015 USDA Market News

USDA BY-PRODUCT DROP VALUE (STEER) FOB CENTRAL U.S.
 The hide and offal value from a typical slaughter steer(1) for today was estimated at 15.09 per cwt live, unchanged when compared to Monday's value
 FOB CENTRAL U.S.

TODAY'S CALCULATIONS FOR BY-PRODUCT VALUE (STEER)

	Lbs	Price	Change	Value
			Prv/Dy	
Steer hide, butt brand/Pc	5.03	105.00	-	7.64
Tallow, edible (2)	1.20	27.75	-0.50	0.33
Tallow, packer bleachable	4.50	25.25	-	1.14
Tongues, Swiss #1 0-3%, exp	0.24	375.00	-	0.90
Cheek meat, trmd	0.32	210.00	-	0.67
Head meat	0.13	135.00	-	0.18
Oxtail, selected	0.24	400.00	-	0.96
Hearts, reg, bone out	0.38	90.00	2.00	0.34
Lips, unsalded	0.13	206.00	-	0.27
Livers, slcted, export	0.96	60.00	-	0.58
Tripe, scalded edible	0.65	117.25	-	0.76
Tripe, honeycomb bleached	0.15	210.00	-	0.32
Lungs, inedible	0.47	6.00	-	0.03
Melts	0.14	6.50	-	0.01
Meat & bone ml 50% blk/ton	3.70	363.50	-	0.67
Blood meal 85% blk/ton pnh	0.60	950.00	-	0.29
Totals:	18.84			15.09
Dressed equivalent basis (63% dress):				23.95

- (1) Typical slaughter steer weighs 1,375 pounds
- (2) May include Technical Animal Fat as both meet the same AFOA specifications

Des Moines, IA Fri, Jan 30, 2015 USDA Market News

WEEKLY USDA BY-PRODUCT DROP VALUE (HOG)
 The offal value from a typical slaughter hog (1) for the week ended 1/30/2015 was estimated at 4.00 per cwt live, down -0.15 when compared to last week.
 FOB CENTRAL U.S.

CALCULATIONS FOR BY-PRODUCT VALUE (HOG) -

	Lbs	Price	Change	Value
			Prv/Wk	

Cheek meat, trimmed	0.28	70.50	-6.50	0.20
Chitterlings	1.26	42.00	-	0.53
Ears, edible export	0.19	212.50	-19.50	0.40
Tongues, grn, bnls, sml bx	0.18	142.00	-	0.26
Hearts, slashed, domestic	0.28	28.00	-0.25	0.08
Kidneys, inedible	0.25	11.75	-	0.03
Livers, inedible	1.25	17.00	-	0.21
Melts, inedible	0.17	5.50	-	0.01
Salivary Glands	0.26	45.00	-5.25	0.12
Snouts, mask on	0.28	34.00	-	0.10
Stomachs, scld, small box	0.43	118.00	-	0.51
Lungs, inedible	0.95	4.63	-	0.04
Choice white grease	0.50	24.75	0.50	0.12
Pork meat & bone meal	1.57	375.50	-27.00	0.29
Pork blood meal	0.58	875.00	-142.50	0.25
Lard	1.72	26.25	-	0.45
Blood plasma	2.01	20.00	-	0.40
Totals:	12.16			4.00
Dressed equivalent basis (74% dress):				5.41

(1) Typical slaughter hog weighs 280 pounds.

Source: USDA Market News Service, Des Moines, IA
Mike Schrader/Nina Biensen 515-284-4460 Desm.LGMN@ams.usda.gov
24 Hour recorded market information 515-284-4830
www.ams.usda.gov/mnreports/NW_LS446.txt
www.ams.usda.gov/LPSMarketNewsPage

Edible pet treats Edible refers to the meat trim and soup stock bones that are food grade but not human product-worthy. Trim meat from around the neck, sinewy or gristly trim down the front and hind legs, some fat mixed with meat, etc which are processed under inspection can be sold as pet *treats*. It is my understanding that if it is called a pet *food* then it falls under labeling regulations for nutritional analysis and the like. There can be many pounds of pet treat trim -- in addition to bones -- that can be sold by the butcher for nearly as much as ground beef! Many people will spend nearly as much on their pets as if they were children. It really adds up.

Variety Meats Value Adding Strategies For custom work, know that organ meats are not included in carcass weight. For those producers who want their organ meats, they should be identified and held separately. At scheduling prior to slaughter find out if the producer wants them. If they do, they can be trimmed and packaged the day after slaughter. It can be a logistical challenge so storage racks and organization are important. For the effort, it is generally discouraged to put producer-branded labels on organ meats and instead use a generic label. For those producers who want their organ meats back, the weight is added to the processing fee at the same rate as cutting and wrapping. Keep in mind that hot carcass weight are used and not cold carcass weight for calculating the processing fee since about 2-3% is lost in the drying and aging process. If organ meats go unclaimed, the generically packaged product

can be sold and you have been paid for the processing and handling either way. Additional storage is necessary but racks can accommodate several clients' variety meats with relatively little volume. Selling or moving all the liver can be difficult. Some can be added to pet treat trim but not too much or the texture will get too mushy. Chickens would thrive on it... Saved bones and fat requested by a producer should also be charged the processing and handling fee at the same rate.

Custom Exempt farm slaughter and processing Custom slaughter facilities offer a valuable service to the local community. Most custom exempt butchers are older and fewer young people want to enter the business so both a potential problem as well as opportunity exists. Custom Exempt should be a necessary interim step for the would-be butcher before going to USDA processing and slaughter. It is best to gain proficiency in the business of meat cutting before taking on the more onerous paperwork trail of USDA.

Custom Exempt facilities are free from federal inspection. According to Meat and Poultry Inspection Regulation 303.1 (USDA, May 1973)

“The custom slaughter by any person of cattle, sheep, swine, or goats delivered by the owner thereof for such slaughter, and the preparation by such slaughterer and transportation in commerce of the carcasses, parts thereof, meat and meat food products of such livestock, is exclusively for use in the household of such owner, by him and members of his household and his nonpaying guests and employees.”

However, certain aspects still come under USDA jurisdiction. The following regulations apply to Custom Exempt facilities:

- ✚ Under no circumstance can meat or meat products be sold unless they have been federally inspected.
- ✚ Complete records of all livestock custom slaughtered in the plant must be kept on file. Each carcass must bear a tag stating the owner's name, address, and telephone number.
- ✚ Non-inspected carcasses must be stamped "NOT FOR SALE" and be kept apart from inspected meat that is for sale.
- ✚ All non-inspected custom meat must be processed separately from federally inspected meat and be identified as such. Sanitation (wash, rinse, sanitize) of all currently used food contact surfaces is required USDA slaughter or processing for commercial sale can begin.
- ✚ All non-inspected meat packages must be stamped "NOT FOR SALE." Some custom operators retail meat and meat products from the same establishment. *This procedure requires extra care to keep the two operations separate. It can be very easy for a less-than-honest butcher to sell meat that was not inspected and save/make a few dollars.* The author believes that this practice can be quite prevalent in the industry and frowns on such activity. “It takes years to

build up a good reputation and only a day to ruin it!”

Custom operations are well suited to small, family businesses. Family members can help run a custom cut and wrap service. Custom Exempt facilities, like any other meat processing plant, must meet some federal inspection requirements for plant design. A Custom Exempt facility is usually smaller and takes less financing to build, but many of these older buildings often become inefficient and eventually need to be upgraded and/or expanded.

Expansion of existing facilities is generally more expensive than initial investment in facilities of adequate initial size unless designed for expansion from the outset as in mobile/modular type of construction.

Halal slaughter There is a small but significant Muslim community in the Inland Pacific Northwest. If the prospective butcher plans to sell animal products into this community, he/she must know that all meat and other products prepared for consumption or use by Muslims must follow the principles of slaughtering and meat processing according to the Islamic Shari’ah.

Halal is an Arabic word meaning 'lawful' or 'permissible' and not only covers food and drink, but also all matters of daily life. When it comes to halal food, most people think of meats. However, Muslims must ensure that all foods, particularly processed foods, pharmaceuticals, and non-food items like cosmetics, are also halal. Frequently, these products contain animal by-products or other ingredients that are not permissible for Muslims to eat or use on their bodies.

The oldest and most well-known halal certifier in the United States is called the Islamic Services of America. Something that companies which intend to export halal products must keep in mind, when choosing a certifier, is whether or not the certifier is recognized by foreign governmental bodies.

In 2011, the Halal Products Certification Institute was established in California and became the first worldwide corporation that certified halal consumer products such as cosmetics, personal care products, and perfumes and fragrances. The institute was established by Islamic intellectual scholars and Muslim scientists to assure the dissemination of halal consumer products.

Once again, an opportunity exists to create Halal products and expand market potential.

Facility Infrastructure Considerations

Location Ideally, the prospective butcher will want to locate their facility somewhere between producers and their customers. County zoning ordinances must to be reviewed to insure that the activity is a permitted use within the agricultural or industrially zoned areas. Approvals from the city/ county planning department will be required. Slaughter compared with processing only will need additional scrutiny since we are dealing with live animals, more waste and possible odors, and the perception by many residents of “Not in my backyard!” Mobile/modular can, of course, circumvent the need for some approvals and considerations. Still it is good policy to be proactive with county planning and show them your plan to deal with waste streams etc.

Purchasing an existing facility may offer the benefit of “grandfathering” past many new local codes. It will depend on the county/city ordinances in your area. Purchasing an existing processing business can have other benefits. Often an existing client and/or customer base with loyalty and purchasing habits from a good reputation built over the years will aid in the transition from one owner to another. The facility may also come with employees who know the ins and outs of operations and maintaining refrigeration equipment for instance. However, there are also downsides to owning an “obsolete” building with a poor floor plan that may have been added onto over the years, have inadequate insulation in coolers or freezers, and inefficient refrigeration equipment. Sometimes these older facilities can be had for a song when compared to new construction. But also sometimes, you couldn’t pay someone such as me to take it off your hands! It just depends...

Accessibility Location matters for a processing facility selling retail out of the shop. This can be quite attractive since there are no distribution costs and perhaps less cashier costs since employees are more easily able to divide duties between meat cutting and servicing walk-up customers.

Potential customers may or may not be willing to make the trek out to the country butcher shop. Time is money. Convenience matters. Still, the butcher shop should offer enough product variety to draw customers in. And seasonal eco-tourism activities can offer the customer a larger and unique experience that cannot be had at the local big box grocer. These operations take years to develop and build but also offer the benefit of customer loyalty envied by many.

Accessibility also means that business operations must go on -- big truck or small, rain or shine. Plot plans will need to be developed that describe site clearance onto the public road, lay out maneuvering clearances to holding pens for livestock or loading docks for product, and customer and employee parking areas, all while maintaining a safe, clean, and attractive store

front.

Availability of utilities Consideration should be given to the proximity of a potable water supply, waste water/sewage hook up if necessary, electrical power (3 phase or single, 230 or 460), and possibly gas for hot water. This may be less of an issue with Mobile Slaughter Units which can self-contain many of these utility functions depending on individual needs.

Waste water disposal Waste water disposal is a much greater concern for slaughter facilities than for facilities that only process meats. Kill floors must meet local and federal standards for waste water disposal. Compliance with these standards can sometimes be a real problem, since municipal sewage processors usually charge extra for the handling of kill floor effluent.

Treatment and disposal of slaughter and processing waste products are inherent costs to the business. Waste water from meat plant operations cannot find its way into surface waters or the underground water table.

Waste water treatment will be an important consideration when selecting a location for your facility, even if the potential butcher plans to convert an existing facility. Sewage from rest rooms, for example, cannot be discharged into the lines carrying waste water from the rest of the facility. Drains from rest rooms must be separate from those servicing the rest of the plant.

The last time I checked, all liquid water -- including waste water -- runs down grade. If it remains a liquid, it must be treated to acceptable standards as it flows into a final "resting place". But lower volumes of waste water can also leave in a gas form. Lined waste water evaporative ponds and other means of evaporation such as a living grass sod or wicking material over an impervious liner utilizing waste heat, sunlight, and forced or natural air flow across the surfaces can treat and dispose of waste water almost passively.

Given the *potential* Biological Oxygen Demand (BOD's) from slaughter waste water and the fact that many municipal treatment plants have concerns about treatment volume, concentration, and peak demand, it may be best for the processor to provide his or her own treatment solution.

Soil conditions in many areas may or may not be suitable for on-site disposal. It is important to work proactively with the local county health department and foster a relationship that is not adversarial or excessive costs and delays for approval may occur.

Conservation is important. The least cost waste disposal option is the waste one doesn't generate in the first place. Ultra low water use as described later or lined evaporative ponds preventing waste water from entering any water source can be adapted as "in-house" (or more accurately, "on-house" evaporative systems where disposal areas and permitting may not be

necessary. Again, this particular strategy is not included in the scope of this planning guide but part of a possible forthcoming mobile/modular solution.

Adding waste water to a carbon based (straw or wood chips) offal compost row is another creative way for disposal. It may require an impervious slab or documentation of enough fibrous compost base that even under adverse weather conditions (if outside), no contaminants enter other water sources.

Sewage The best policy is to avoid any discharge of raw sewage except onto the compost pile for treatment by microbes, sun, oxygen, carbon, and water. Otherwise a whole host of regulatory issues will crop up. Keep it simple, keep it clean. Handle it yourself. Do it right

Minimize your sewage footprint Reduce the volume of water you use in your facility. For instance,

- ✚ Cooling water from some types of refrigeration can often be recycled.
- ✚ Shut off water when it is not needed
- ✚ Install push-to-open or automatic valves at water taps
- ✚ Use cold rinse water on areas that have been cleaned with detergent or foaming agents. Hot water usually is less efficient and keeps suds active longer. Unless you use approved chemical sanitizers, follow the cold rinse with a hot water rinse
- ✚ Use dry cleanup procedures at first. Use a squeegee and shovel to collect bits of fat, bone, hair, dried blood, and trimmings; put this material with other inedible offal. Insist that employees use this cleanup procedure before hosing down the kill floor or processing areas
- ✚ Use a pressure washer which requires minimum water and do an efficient job
- ✚ Reduce the biological oxygen demand (BOD) of the waste water by catching virtually all blood in a receptacle and dispose with the offal.
- ✚ Install and use screens, filters, baffles, and other traps over drains. This will remove large amounts of fat, tissue, animal hair, dried blood, oil, grease, and bits of bone before they reach the sewer. Traps and filters should be cleaned every operating day or more often as needed.
- ✚ Use drain stoppers along with a squeegee to wipe materials away from drain openings can help prevent even minute bits of tissue or fat from reaching the sewer system.

Remember: You do not pay sewer fees or need to invest in your own equipment for materials you do not drain into the sewer!

Water supply If a new processing facility hooks up to a municipal water supply, local codes

often require that a double check valve back flow prevention device be installed by a certified plumber near the point of entry. It will also require periodic, usually annual, testing to insure compliance. Even though it may be treated to potable water standards by the local municipality, an annual water test indicating a negative result for coliform bacteria is required. If in the case of a Mobile Slaughter Unit water is supplied on site rather than stored in a tank on board, a coliform test is required every six months. Should these tests fail, the most cost effective solution is to purchase and install UV light water treatment equipment and then retest at the point of use for a negative result. The results must be posted in a conspicuous place.

The table below details typical water usage for select jobs based on a study of small processing plants. This may help you decide what livestock to slaughter or what style of dressing (pork skinning versus scalding) to use if the water supply is limited.

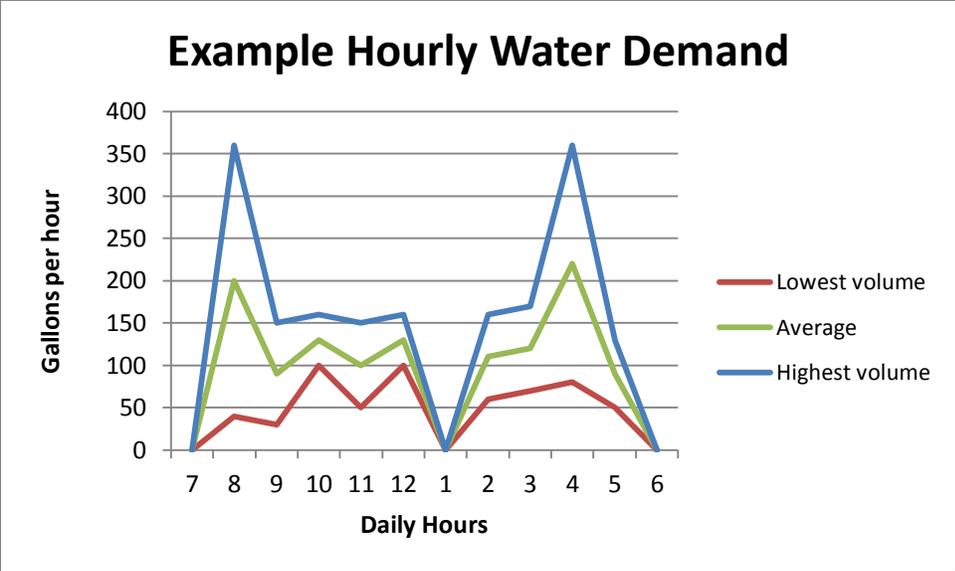
Calculated and typical water usage for selected jobs

Job	Water Usage	
	Calculated	Typical
Cattle Dressing		
Head washing (gal per head)	2.44	2.44
Offal truck washing gal/hd)	3.23	2.33
Carcass live wt wash (gal/lb)	0.03	0.03
Total/carcass live wt (gal/lb)	0.09	0.09
Hog Dressing		
Offal truck washing gal/hd)	3.23	2.33
Carcass live wt wash -- skin off (gal/lb)	0.07	0.09
Carcass live wt wash -- skin on (gal/lb)	0.02	0.04
Total/carcass live wt -- skin off (gal/lb)	0.14	0.15

Total/carcass live wt --skin on; includes scalding water (gal/lb)	0.35	0.35
Plant cleanup		
Between species (gal/sq ft)	0.07	0.05
During work break (gal/sq ft)	0.05	0.04
At end of day (gal/sq ft)	0.27	0.27
Holding pens (gal/sq ft)	0.19	0.19
Inedible offal room (gal/sq ft)	0.21	0.33
Chill cooler (gal/sq ft)	0.07	0.09
Aging cooler (gal/sq ft)	0.13	0.16
Fabrication room (gal/sq ft)	0.27	0.23

Source: Utility usage in small slaughter plants, USDA ARS-S-174

Peak demand is important to water use, especially if you want to supply water from a well or other limited source such as a rain water cistern. You should plan for pump capacity that can meet your facility's water needs during peak demand periods. The figure below illustrates the highest, lowest, and average water usage for a small plant. You will need to calculate based on the source and volume, taking into account conservation measures detailed below but understanding that system capacity should build in a safety margin for both instantaneous flow and total daily volumes.



Electrical use Much of the equipment in your plant will require 230 or 460 volt, three-phase electric power as well as 110 and 220 single-phase. If service is not available nearby, your hookup costs may be significant. Consider off-grid power options such as diesel and even solar and wind generated power supplying smaller equipment if location does not lend itself easily to grind hookup.

Energy-saving strategies should be incorporated at every opportunity, but only if economical to implement and such that efficient operations and food safety concerns are not compromised. For example, heat exchangers make it possible to use waste energy from refrigeration that otherwise would be wasted. For more information on this, see later section, "Energy Management."

You may be able to estimate your consumption from the data presented in the table below which shows usage by smaller processing plants. Electricity costs vary greatly across the United States. On Kauai for instance, diesel generated grid power costs over \$.50 per Kilowatt hour while in the Pacific Northwest where we enjoy the lowest rates in the nation, we pay around \$.085 per Kilowatt hour. You should calculate actual costs per head based on current utility costs for your area and/or power source.

Utility Consumption (averaged 12 processing plants)

Plant size (sq feet)	6,200
Holding pen area (sq feet)	790
Volume	
Cattle slaughtered	2,100
Total live weight pounds	1,486,000
Average weight per head	708
Hogs slaughtered	605
Total live weight pounds	147,000
Average weight per head	243
Sheep and goats slaughtered	90
Total live weight pounds	7,160
Average weight per head	80
Total animals slaughtered	2,795

Total live weight pounds	1,640,160
Utility consumption and costs	
Water used (gallons)	610,400
Average per head (gal)	218
Average per pound (gal)	0.37
Electricity used (kwh)	232,000
Electricity rate per kwh	\$0.085
Total electrical power \$	\$ 19,720
Average per head (kwh)	83
Average per head power \$	\$7.06
Average per pound (kwh)	0.14
Average per pound, live wt \$	\$.0119

*Source: Utility usage in small slaughter plants,
USDA ARS-S 174*

Basic Processing facility and design The prospective butcher will need to obtain written approvals for each aspect of their operation. Approvals are necessary from a variety of agencies or authorities, beginning with the local zoning board and other code enforcement groups, state agencies like the Department of Labor and Industries, and Federal Agencies such as the

Environmental Protection Agency, and the U.S. Department of Agriculture (USDA).

It is smart to bring in the USDA Food Safety and Inspection Service (FSIS) at the planning stage. Though no longer required, the USDA can/may review the drawings as they relate to federal meat processing compliance regulations. The plant itself must meet certain inspection criteria before meat processed in that plant can be certified as suitable for human consumption. Architects, engineers, and contractors who engage in planning and constructing processing plant facilities rely on USDA guidelines to ensure that their projects meet the requirements set forth in the Federal Meat Inspection Act. This Act is discussed in more detail in the section, "Government Regulation."

Planning for expansion Being new(er) to the meat processing business, you should start small and expand after you have a few years of experience and established reasonable profit.

Your facility will require working areas for cutting, processing, cooling, and freezing. Killing and skinning areas, equipment for slaughter, and retail sales areas may be added later. A few years' experience will prove invaluable in evaluating market potential and justified investment in growth.

Planning for future expansion provides flexibility that will not be available if an "ambitious" facility were constructed initially. All too often, original planning fails to consider expansion, and even minor alterations or additions later on can be very costly. Freezers, coolers, and rail systems are expensive to install. You should take time to plan accordingly so that components are in the right spot to begin with. Coolers and freezers should be located against the outer walls of the building envelop. Adequate space between the building foot print and lot boundaries will make expansion go more smoothly or even possible.

Exterior components such as loading/off-loading areas, holding pens, etc. also must be considered in the plot plan. A facility intended for meat processing should, if possible, be designed to accommodate a slaughter area and retail sales outlet.

The slaughter area should always be at the rear of the plant away from the main entrance and public view. Unloading chutes, holding pens, and space for maneuvering trucks under all weather conditions will be needed. Holding pens must have available water for livestock at all times—freezing conditions or not. Animals held longer than twenty-four hours must be fed, so you will need feed bunks and feed storage or institute a policy where this is not applicable. Storage for handling, composting, or shipping of offal and other wastes should also be provided at the rear of the building, away from public view. However, prevailing winds need to be taken into account since livestock should not be downwind of blood and waste smells which can initiate stress and result in off-quality meats. Additionally, undesirable sights and sounds need

to be minimized for livestock held for slaughter.

A retail sales outlet is best located in the front or off to one side of the main building. The sales area should be separated from the rest of the facility by walls (with windows) and closed doors. Parking for employees, retail customers, and other facility visitors is very important. Easy access to the facility from public roads should be convenient and safe.

The retail sales area should be adjacent to the cutting and processing rooms so that sales staff will be able to restock cases or obtain special items quickly and easily.

Construction specifications It is difficult though not impossible to project construction costs of a processing plant, whether developing a new site or remodeling an existing building. Costs associated with site preparation and possible expansion largely depend on the size of the proposed plant and the specifications for interior finishes and equipment.

Quality installations cost more initially but may have a longer useful life and, if applicable, a higher resale value. However, construction costs for high-quality installations, if not shared with other organizations within the building envelop or otherwise subsidized through private grant or public assistance, may be cost prohibitive and become a true barrier to entry. In those cases, compromise in some areas of construction options or a smaller building envelop designed for growth or mobile/modular are more viable.

New materials including prefabricated wall panels with built-in insulation and impervious washable finishes are now common. These new building materials have greatly facilitated construction or remodeling of meat processing facilities and prefabricated panels are easily disassembled or moved if remodeling.

Prefabricated coolers and freezers are a good option to consider. Many existing small meat processing plants walls are constructed of concrete block which are strong, durable, and lend themselves to smooth finishes. But they have no insulating R value. Many older establishments can save enough money on reduced power for refrigeration to pay for added insulation within a short payback period. This improvement can also include insulating concrete floors since cold air sinks and the ground soaks up expensive cooling but existing facilities will be far more problematic to upgrade than new construction.

The cost of materials is always changing which makes contractors reluctant to project long range building costs. Be sure to have all plans in order, ask many questions, and make as many decisions as possible before construction begins. Major changes made after construction begins will pose problems for the builder.

Small meat processing facility layout discussion Meat processing facilities come in all shapes

and sizes. While some are more efficient than others, there is always more than one way to skin a cat, as it were. Due to the nature of the business, especially niche based establishments; the prospective meat processor must remain diligent in controlling costs and increasing efficiency while maintaining quality and regulatory compliance. In a word, thrifty—this is not the same thing as being cheap! Therefore, it may be best to leave the actual design of a new facility to a professional who is familiar with this activity. The adage, “Form follows function” dictates that the facility is laid out with an eye for process flow from receiving to shipping while creating a productive work environment. Hiring a designer with specialized training in the meat processing business would be a wise choice, helping you make better, more informed decisions about appropriate size, necessary components, and regulatory compliance.

The following narrative discusses possible facility configurations. But for the prospective butcher, an analogy may shed light on realistic “possibility thinking”. When you turned 16 most likely your parents did not hand you the keys to a brand new car. Rather, if they were “good” parents you had to get a job after school, save your pennies and buy a “fixer upper”. You had to learn everything about that car, how to repair it, maintain it, pay for insurance and buy gas. You were responsible for cleaning it for date night, etc. In essence, you learned the cost of ownership but enjoyed the freedom that came from being responsible for that less-than-ideal vehicle, but with the freedom to move, to do what you wanted, and to go where you wanted to go; so also this business venture. Learn the ropes, move up with time, and enjoy the benefits.

Small processing only facility (butcher shop) This is the most simple facility layout, designed solely for breaking carcasses into processed meat products. Since slaughtering is not a part of the operation, less floor space, less water, less power, less coolers, and no need for holding pens, or a “knock box” and kill floor are needed. Building investment can be minimized under this layout. Or additional space can then be devoted to special areas for smoking and curing of processed products.

Startup volume to justify investment in a small processing plant could be as little as 3 or 4 beef equivalent per week (150 to 200 head per year), primarily in breaking down carcasses into retail cuts (not wholesale) and processed meats with one employee.

Small Custom Exempt facility Such a facility typically can slaughter and processes from eight to ten beef per week. As an aside, one beef is roughly equivalent to 4 pigs or 6 goats/sheep.

As described earlier, Custom Exempt facilities are restricted to the services they may offer. (See also “Government Regulation” later)

Small slaughtering and processing facility A small facility that can slaughter and process should be able to accommodate up to approximately 20 cattle or 80 hogs per week, with a staff of four

or five workers. Such a facility could be profitable primarily for operations that slaughter and process for sale of retail cuts (limited wholesale) and also provide custom cutting and wrapping services for other clients. A facility such as this could also add value by producing sausage, curing, and smoking.

Special facilities and equipment Facilities and equipment should be sized to meet your operating goals. In addition to the coolers, freezers, cutting rooms, and possible slaughter equipment typically associated with a meat processing establishment, other components are also necessary to the overall operation.

Cured, smoked, and cased (sausages) products require a designated cooler (separate from the ageing or carcass coolers), brine room, and smoking/cooking rooms. All facilities should have adequate storage for supplies and cleaning materials, as well as a utility room for water heater, electrical panel, or other utilities. It is also beneficial to have a small area for cleaning and storing carcass rail trolley rollers. Adequate rest rooms with lockers (and possible shower) should be incorporated into your facility layout. You need to accommodate employee needs such as a lunchroom and a changing area from street clothes to processing garments. Depending on the type of business, a shipping room adjacent to a loading dock is an effective way to manage incoming supplies and outgoing products. A word of caution here: installing security cameras at the outset is necessary in a world that is less than perfect... Sad to say, sooner or later, employees will walk out with product or scarf supplies. Rather than create a “culture of negativity” just institute a policy of tight management from the outset. “You can’t manage what you can’t observe!” Install the monitoring cameras at strategic locations. This investment will pay itself back relatively quickly...

You will need office space for keeping records and conducting business. A small **private** office is desirable for conducting business. Depending on the size of your operation, the USDA Inspection Service may request that you have a private office for the inspector. It does not need to be more than a desk with chair and a file cabinet.

These are just some of the considerations you should keep in mind that will greatly improve overall plant efficiency and profitability. Since coolers and freezers are a big aspect of the meat business, these are discussed in greater detail in the following section.

Cooling and freezing Refrigeration is really the infrastructure backbone of any meat business. Fresh product is perishable and must be moved expeditiously but frozen offers far greater inventory management—the thing is both require refrigeration.

It is very important to plan for cooler and freezer capacity. Too often, small processors discover that their cooling equipment or rooms lack the chilling capacity or volume required to hold

output at appropriate temperatures. A **local** trusted HVAC (Heating, Ventilation and Cooling) specialist should be consulted in laying out and equipping your facility for refrigeration. The required investment (building envelop and insulated/paneled coolers, installing doors, rails, and refrigeration equipment, and cooling operation and maintenance) represent a major cost eclipsed only by overall facility investment/debt service and labor (or livestock purchase) of facility outlays.

Walk-in freezers A walk-in freezer provides essential inventory flexibility for storage until conditions for sale or further processing of tempered (thawed) product becomes ideal. If you plan to offer custom processing or if you need to manage inventory more closely, you will need adequate freezer capacity. Space requirements depend on the type of product being stored. Ceilings should be at least 8 feet high for adequate air circulation, and a square foot of floor space is recommended for each 100 pounds of product stored on a typical five-shelf storage rack. An average of 30 pounds of product for each **cubic** foot of volume is another standard for calculating storage capacities. Temperature in the freezer should always be 0°F or lower. Some butchers also incorporate blast chilling (-20 degrees) before moving meat into the walk-in freezers. Blast chilling freezes meat very quickly so that meat muscle cells don't get the chance to rupture and bleed, subtly improving frozen meat quality.

Chilling coolers If you decide to slaughter, you will need a properly sized and **hot** carcass chill cooler to hang carcasses while heat and moisture are removed. The hot carcass chill cooler should be adjacent to the kill floor and be large enough for at least one day's slaughter capacity. Temperatures should be brought down to between 32° and 34°F within a **few hours** of kill—provided that the surface temperature of the carcasses reaches 40 degrees or less within 24 hours of slaughter. Air exchange should be relatively high compared to the other carcass holding and loin ageing coolers. A rate of sixty to one hundred air exchanges per hour is required at this time. Aggressive air movement with no “dead spots” in the cooler hastens carcass chilling and retards the formation of surface slime.

Regulations require a secured USDA retained area, usually located in a corner of the holding cooler. Carcasses that do not immediately pass inspection (USDA retained) can thus be isolated from the “inspected and passed” carcass flow until a decision is made to allow process or dispose.

Holding and loin aging coolers The cooler for holding carcasses or meat for processing or the sales room should have a storage temperature of about 33° to 35°F. Air change in this cooler should be only about six to twelve times per hour because more rapid air changes increase drying and shrinkage. The cooler should be located adjacent to the processing room with adequate space for carcass movement and product storage. Adequate floor space should be

allowed for shelves and moveable racks, keeping the “working end” of the cooler open for storage of fresh meat cuts. As mentioned earlier, a loin aging cooler saves money and space since only the loin is dry aged and not the whole carcass.

Coolers for cured and smoked meats Cured and smoked meat products require their own cooler to separate them from fresh meat coolers. Three or four air changes per hour at a temperature of 38°F are adequate for coolers that store cured and smoked meats. As with the holding cooler, adequate shelving and racks will improve floor space efficiency.

All coolers except the walk-in freezer will accumulate meat juices which will need to be washed out from time to time so floor drains are required (the water source can come via hose from the processing room). If you plan to mix Custom Exempt meats and USDA inspected product, your cooling areas must be arranged so that meats from the two operations are kept separate at all times as required by USDA.

In general, separate compressor machinery for each cooler or area is a good idea so that failure of one cooler unit does not endanger all products in the facility. If possible, cooling redundancy will insure that product is not lost due to equipment failure. However, products can be shifted from "downed" cooler units to operating coolers until repairs are made.

Summary of minimum distances for slaughtering and processing equipment

(Rail heights are measured from top of rail to highest part of floor)	
	Vertical Distances
Bleeding rail (distance from rail to point of application of shackle to shackled foot -- 48"	16' 0"
Bleeding rail if only sheep are slaughtered	9' 0"
Dressing rails (trolley length -15")	11' 0"
Beef Cooler rails (trolley length - 15")	11' 0"
Sheep and Hog cooler rails	7' 6"
Rails for beef quarters (trolley length - 15")	7' 6"

Rails for sausage cages etc.	7' 6"
Stationary equipment from ceiling and floor	1' 0"
	Horizontal Distances
Dry area in front of stunning pen	7' 8"
Rails to coolers, walls, posts and other fixed parts of building	2' 0"
Width of doors through which carcasses are railed	4' 6"
Width of doors through which product is conveyed on hand trucks	5' 0"

Efficiency is critical to ensuring product safety in your facility and to preventing significant economic losses. The table below is meant as a guide for recommended minimum capacities for beef, pork, and meat products. Again, refrigeration professionals should be hired to determine the precise amount and type of refrigeration needed for your operation.

Minimum refrigeration capacity for beef chilling (in tons)*

Total room capacity (hd)	Floor area (sq ft)	18 hour chill time		24 hour chill time	
		4 hr loading	8 hr loading	4 hr loading	8 hr loading
25	210	8.0	5.8	5.8	5.0
50	425	16.0	11.8	11.8	10.1
75	650	23.2	18.2	17.9	15.6
100	800	31	24.2	23.8	20.8
250	2000	77.5	60.5	59.5	52.1

*Based on a 65 degree pull down of 550 lb carcasses, allowing for room heat gain and defrosting

To achieve a 12 hour chilling, more air and lower room temps of 32 to 34 degrees are needed.

Smoking, curing, and heat treated If you plan to produce smoked, cured, or cooked meat products you will need dedicated equipment and areas/rooms. Hoods and/or exhaust fans should be installed to remove excess heat and steam from the cooking and smoking areas. If the heat generated by smoking and cooking is not vented, temperatures of meats for a given duration can elevate into the microbial “danger zone” (40 to 150 degrees) and encourage growth of pathogens in meat products.

The temperature in the processing room(s) must be maintained at 50°F or below for a full 8 hour shift, or else USDA will require a sanitary wash-down of food contact surfaces at a 4 hour interval (lunch break) if ambient temperatures are higher. A strategy, then for the small butcher shop is to identify food contact surfaces and clean them (wash, rinse, sanitize) at the 4 hour interval and again at the end of the shift, but eliminate the need for refrigeration to maintain 50 degrees or less in the processing room, saving on refrigeration costs and improving meat cutter performance/morale resulting from a work environment that is not so cold. You will have to make your own determination.

Exhaust from the smokehouse room and/or smoker must be vented to the outside. In both cooking and smoking areas, there must be at least 12 inches between equipment and walls to permit thorough cleaning. Access doors must be wide enough to accommodate the handling of meat (smoke trucks/racks) to/from these areas.

Smokehouses can be constructed as part of the building. Glazed brick or tile (smooth surface for cleaning) may be used for lining the smoke chamber. Whatever the materials, they must withstand strong cleaning solutions and repeated scrubbing. Stainless steel is popular though expensive. Insulation of the smoking/cooking chamber will reduce energy costs whether gas or electric. Commercial smoker/ovens are commercially available, usually quite pricy, but can also control humidity as well as time, heat, and smoke generation. Prices vary so the savvy butcher will need to evaluate the best option.

In smaller facilities, wheeled racks or smokehouse trucks support product while smoking and for moving into the smokehouse cooler. Such trucks loaded can hold from 200 to 400 pounds of product. Doors on smokehouses must fit tightly to avoid seepage and to retain heat, reducing energy costs.

Liquid smoke is a popular alternative to natural smoke, used as a dip, spray, or an ingredient, it affords greater environmental benefits since it does not seep through vents, but is isn't the “real” thing. Controlling heat is a requirement since the internal temperature of smoked meats must reach and remain levels prescribed by USDA for “Heat-treated, shelf stable” as well as

“Heat treated, not shelf stable” products.

Handling inedible offal and hides Slaughter facilities must have a designated cooler/room for collection and storage of inedible offal. Minimum requirements depend somewhat on frequency of disposal. Most rendering companies pick up weekly, but if composted by the processor could be more or less frequent. Most likely, you will not generate enough volume to arrange for daily pickup and will need cold storage (40 degrees F or less).

The offal storage cooler should be located on the perimeter of the building, with its own access so that disposal activities do not disrupt/contaminate other operations. The offal cooler must have tightly fitting doors to keep out flies and rodents. Water for washing the cooler and drums and a floor drain in the cooler will be needed for regular cleaning.

Most small plants use a recycled 55-gallon oil drums for waste materials and trim, but the preferred container are poly/plastic drums of similar size with handles and lids. A suggested number of barrels for containing offal from various species are shown in the following table. Offal containers must be provided for waste or condemned product/trim/bones and must be clearly labeled “USDA INEDIBLE” in 2-inch lettering. Diluted denaturant, a purple die, must be visibly sprinkled on discarded or condemned meat products. Blood, paunch contents, feet, heads, and viscera from all inspected slaughter livestock are also placed in drums for disposal. Most facilities now pay to have inedible offal picked up by rendering services. A few decades ago it was the other way around. Most rendering companies are set up to dump drum contents directly into their truck. You will still be required to clean them.

Slaughter facilities will handle hides as well as inedible offal. Small butchers keep hides in separate drums but still sell them to the rendering service when offal is picked up. But hides held stored for later sale—or additional value-added pet treats—must be salted and usually require more thorough trimming than those sold to rendering companies. Salted hides will "weep" for days so the storage area must slope to a drain. Another income-enhancing strategy is to coordinate with other nearby slaughterhouses to increase volumes necessary to fill a cargo container for shipment and get better prices

Average number of animals handled for each 55 gallon drum*

Source of by-products	Average dressed carcass weight	# of animals per barrel
Slaughter floor		

Cattle head, feet, viscera	550 to 650	2 to 3
Cattle Stomach contents	550 to 650	2 to 3
Cattle Blood	550 to 650	6 to 8
Cow Hide	550 to 650	4 to 6
Hogs, skinned head feet visc.	150 to 200	8 to 12
Hog Stomach contents	150 to 200	6 to 8
Hog blood	150 to 200	42 to 48
Fabrication Room		
Cattle Fat, bones, trim	550 to 650	1 to 2
Hogs Fat, bones, trim	150 to 200	4 to 5

*Barrels used for stomach contents and blood are considered full when within 2/3 to 3/4 of cap.

Slaughter and Processing equipment The equipment required in a processing facility is determined by the type of operations. Most equipment is specific to the activity. For example, a beef-hide puller is of no use in a pork operation, nor would a hog scalding be useful in beef slaughter. However, some equipment can be used for multiple purposes. The same head inspection rack can be used for both pork and beef slaughter operations. The table below presents a checklist of the equipment needed for slaughtering and/or processing operations.

Equipment checklist for slaughter and/or processing

Item	Slaughter		Processing	
	Beef skin cradle	Pork skin cradle	Beef	Pork
Meat saw (band)			X	X
Double sink			X	X
Step sink	X	X	X	X
Meat saw (splitting)	X	X		
Grinder			X	X
Utility Tables			X	X
Slicer			X	X
Cuber			X	X
Knife sterilizer	X	X	X	X
Splitting saw sterilizer	X	X		
Platform scales			X	X
Rail scale	X	X		
Sausage stuffer				X
Table for ham pump etc				X
Smoker				X
Hoist (32 ft per minute)	X	X		
Head insp. Rack	X	X		
Hog restrainer		X		
Edible offal insp. Truck	X	X		

Gut insp Truck	X	X		
Carcass spreader	X	X		
Skinning cradle	X	X		
Knocking pen	X	X		
Knocking gun	X	X		
Electric stunner		X		
Carcass rollers	X	X	X	X
Water heater	X	X	X	X
Rail lowerator*	X	X	X	
Product scales			X	X
Brisket splitting saw	X	X		
Knife sharpener	X	X	X	X
Lugs and Tubs			X	X
Hand saws			X	X
Mixer (grinder also?)				X
Gambrels		X		X

*optional equipment

Facility appearance Although most of the emphasis on cleanliness pertains to operations inside the plant, external areas also require regular attention. If you are also operating a retail establishment, neatness and cleanliness are very important for positive customer impressions.

Customer parking areas should be adequate for anticipated volumes and graveled or if hard surfaced, adequately drained and arranged for convenient traffic flow, driveways and lots to holding pens and receiving/loading docks likewise. Holding pens should be at the back of the facility, preferably screened with landscaping. Lawn and shrub areas need to be kept neat and well-trimmed or they could become habitat for pests and rodents. Attractive landscaping though not necessary will be an asset to your facility. The message that you want to impress on

your customers is one of professional neatness and attention to detail. A cleanly attitude and practice will be evident to your customers and will build positive a business image for your employees as well.

Energy Management As with other energy intensive industries, meat processing must adjust to ever increasing energy costs. Though among the least expensive electrical power in the nation, our region will most likely see energy increases beyond the general rate of inflation for years to come. It makes good business sense than to conserve as much as is optimal. Remember, the least expensive power is the power you never used.

Electrical Power About half of the electricity used by meat processors runs refrigeration, 40% runs equipment, and 10% for lighting. Since electricity is the largest energy source used, measures to conserve it will bring the greatest savings such as the suggestions outlined below:

- ✚ Match power needs to motor size for operating efficiency. Overloaded motors waste power and wear out more quickly and under loaded motors waste energy
- ✚ Consider buying new energy efficient equipment for applications that use motors more than 4,000 hours per year. Energy savings may offset the cost of the new equipment in a relatively short period. The typical work year is 2,000 hours, so this refers mainly to refrigeration compressors and condenser and evaporator fan motors
- ✚ Ask your electrical provider if they have a variable rate program. Savings are possible by operating refrigeration equipment during off peak periods of the day. Today's "smart meter" technology can enable utilities to offer lower off-peak rates
- ✚ Practice preventive maintenance on all electrical equipment. Keep it clean. Keep it lubricated. Keep it adjusted. It will run better and save money.
- ✚ Consider the possibility of photo voltaic and/or site based wind turbine generation for lighting and other equipment requiring less power such as personal computers
- ✚ Consider solar water heaters in season to preheat hot water
- ✚ Look into heat recovery/transfer from refrigeration condenser waste heat to heat water or office spaces
- ✚ Install extra insulation in cool rooms to reduce thermal losses
- ✚ Thermally isolate interior from exterior building members to reduce heat connectivity
- ✚ Consider air to air heat exchangers to capture up to 70% of the thermal mass investment when circulating fresh/dry air for humid/stale air in coolers and process rooms
- ✚ Consider water and evaporative cooling for preliminary carcass chill down prior to refrigerated cooling
- ✚ Consider dry aging only the "middle meat" loins and not the whole carcass, reducing total cooler space requirements
- ✚ Keep operating and maintenance logs of compressors, motors, coolers, freezers, and

auxiliary equipment. Deviations from normal ranges can be identified and investigated with perhaps sizable savings in "down time" or equipment replacement.

- ✚ Operate compressors at the lowest possible condenser pressure year round, which can change greatly from winter to summer.
- ✚ When possible, use water jacket/tower cooling for condensers. Use the heat energy from the water to the greatest extent possible before sending water back to the cooling tower
- ✚ Develop a schedule to check and/or replace seals, gaskets, valve packing, and flange gaskets before larger problems ensue
- ✚ Check air handling control units in coolers and freezers daily to ensure proper operation
- ✚ Keep evaporators free of frost buildup. Set defrost cycles accordingly
- ✚ Inspect freezer and cooler insulation routinely. Repair damaged insulation as soon as possible to avoid further deterioration and waterlogging
- ✚ Inspect all pipe insulation and repair damage immediately. If pipe insulation is adequately supported, deterioration will be minimal
- ✚ Use caulking or other material to seal around pipes, conduits, or other devices that run through the cooler/freezer walls
- ✚ Check for air leaks around doors and other accesses. Keep opening and securing hardware and seals (hinges, latches, bumpers etc.) in good repair to ensure ease of operation, safety, and to reduce air leakage
- ✚ Discourage unnecessary entry into refrigerated areas. Do not let doors stand open
- ✚ Select hand carts and other carriage equipment that rolls easily
- ✚ Turn off lights in freezers during idle periods
- ✚ Use air curtains between freezers, coolers, and hallways or processing rooms
- ✚ Provide a system for routine checking of thermometers, time/temp recorders, and controls to ensure proper functioning. Adjust, repair, or replace when necessary
- ✚ Consider a white exterior finish, particularly on the roof as this will reflect the most light and radiant energy from entering the coolers/freezer
- ✚ Consider UV reflective paints, coatings, or other thermal reflective barriers such as foil which will reduce radiant energy transfer significantly. --This is not to be confused with plain insulation which impedes only ambient heat transfer from one thermal mass to another.
- ✚ Use smart thermostats or timers to control heating and cooling equipment. Check and calibrate thermostats periodically
- ✚ Do not use energy to achieve what can be accomplished naturally
- ✚ When possible, use cold outside air before mechanically chilling inside air
- ✚ If well/municipal water is relatively colder, use this water rather than energy to preliminarily chill air or carcasses when possible. Remember, most well water is a constant 56 degrees year round, why not utilize it
- ✚ Where possible, reduce fan speeds to eliminate drafts into other rooms

- ✚ Check to see if exhaust and makeup air requirements can be reduced. Is the number of air changes per hour appropriate? Can it be reduced? However, be alert to the development of stale air -- which can impart an off-flavor in beef, and keep moisture and carbon dioxide content within appropriate limits. Surface sweating in summer months can be reduced if high-moisture warm air does not enter air-conditioned areas
- ✚ When water heaters are not required, turn of the appliance/breaker as well as the gas if applicable.
- ✚ Clean and replace air filters regularly. After a year of operation, when you become more familiar with your equipment you will be able to institute more relevant maintenance schedules
- ✚ Routinely clean all fan blades, housings, heat-exchange surfaces, and water redistribution devices on cooling towers and evaporative condensers. Mineral plaque can build up before you realize it

Heat recovery

- ✚ Consider hot water alternatives in the facility. Can you use wastewater from cookers, retorts, scalders, and other processing equipment for cleanup, preheating boiler water, or other energy-saving applications?
- ✚ When planning a new facility or installing new equipment, make heat recovery a major planning priority. Retrofitting heat-saving devices such as air preheaters can be difficult and is usually expensive. It is best to include these aspects in the initial building plan.

Insulation

- ✚ Insulation conserves energy and is very cost effective. Insulate all piping for hot water and low-temperature refrigeration piping. Insulate ductwork passing through unheated areas.
- ✚ If you are taking over an existing establishment be sure to check and correct all wall and ceiling insulation deficiencies.
- ✚ One area often overlooked – and a source of greatest thermal loss – is through a non-thermally isolated and insulated floor in cool rooms and freezers. Concrete poured over bare ground is a heat sink! Frost heave can crack a thick floor slab if it is not properly insulated.
- ✚ If you are building a new facility or remodeling an existing one, have your architect/designer review the insulation plans for maximum energy efficiency. It will pay dividends.

Lighting Select lights for efficiency, there's a wide variety from which to choose.

- ✚ Match lighting to the need. Work stations, the cutting room, and inspection areas will require more; coolers, freezers, and storage areas less.

- ✦ Incandescent lights are bright immediately and give off waste heat but there are new high intensity fluorescents that illumine more quickly than traditional fluorescent lights—an important quality in the freezer.
- ✦ Lights must be protected with appropriate shields or sleeves so that broken bulbs do not fall on meat products.
- ✦ Keep lights, covers and, and reflective surfaces clean. Use high gloss white paint or other impervious interior wall cladding such as white fiberglass reinforced panels (FRP) for maximum light reflection.
- ✦ When possible, avoid turning fluorescent lights on and off for short periods, as this shortens lamp life.
- ✦ Consider using the latest Light Emitting Diode (LED's) lights over task areas, more expensive, they are even more efficient.
- ✦ In new wiring, install enough switches so that lights may be used selectively. Large banks of lamps hooked to a common switch make energy conservation difficult.
- ✦ Provide adequate but not excessive windows where beneficial to operations such as the cutting room and keep them clean to utilize natural daylight as much as possible. Work place moral has been shown to improve using natural light over artificial light.

Water supply The least expensive water is the water you didn't use.

- ✦ Keep water supply lines in good condition. Many facilities could lower their water use/cost by simply repairing leaks in faucets and lines and by training staff to conserve water.
- ✦ Use potable water to clean where more stringent sanitation is required and if available, reuse water from the cooling tower, for instance, for wash down of floors.
- ✦ Make it convenient to adjust or shut down sections of your water supply system by adding valves. That way, if a fixture needs to be replaced, for instance, it won't shut down operations in another area.
- ✦ Locate and position valves and spigots for convenient use. If employees must climb, stretch, or stoop to reach a valve, they may find it easy to overlook water conservation.
- ✦ Use a pressure washer to clean the processing environment or equipment where possible to save on water.
- ✦ Water supply to the facility should be adequate at between 40 and 60 psi. Greater as well as lesser pressures can waste water.
- ✦ Evaluate the distance between point-of-use and supply line length. It may be less expensive to heat water in two or three places in the facility than to pipe hot water from a central heater.
- ✦ Consider an on-demand water heater versus a tank heater that bleeds energy. However, be sure that a tankless hot water supply is adequate for the job.

- ✚ Use tempering valves to control discharge temperature and match to the task. Hot water cuts grease and fat, but soap or detergent using warm water will save money.
- ✚ Use appropriate nozzles on hoses matched in length and volume to the task. A hose with no nozzle wastes much.

Waste water discharge The least expensive waste water is the water you didn't treat or dispose of.

- ✚ Be sure that floors are sloped to the drains! Seems simple enough, but they may not. Oddly, water does not flow up hill. This will save much squeegee labor pushing water out of corners and wall bases. Keep in mind that environmental loads of pathogenic bacteria need moist areas to grow. A dry floor that slopes to the drain will prevent this.
- ✚ Be sure that drains and drain lines are sized for the room and the load. Nothing wastes clean up labor at the end of the shift like waiting for water to drain. It's like watching paint dry...a waste of time.
- ✚ Insure that all drains have grates, screens, sieves, or baskets depending on need. These will make it more convenient to remove solids like hair and fat. The more fat that ends up in the drain, the more will build up on the drain pipe walls, eventually causing reduced flow or a blockage -- which will show up just at the time you don't want it. Further, if you are draining water into a municipal system, authorities may frown on or even restrict the amount of solids that can enter the sewer line. Just keep it out and dispose with the offal.
- ✚ Insure that a separate drain line is supplied from outside the building envelop to human waste areas such as bathrooms. Backflow from restricted or plugged lines can bring raw human sewage back into processing rooms. A big problem.

Transportation The least expensive transportation is the mile you didn't drive. However, if you require a delivery truck, which can be a "necessary evil";

- ✚ Keep logbooks on miles and fuel use for all vehicles. A reduction in miles per gallon will indicate need for a tune-up.
- ✚ Keep wheels aligned and tires properly inflated.
- ✚ Encourage drivers to respect your equipment and the policies you institute. The author has endured unnecessary expense resulting from a driver who did not maintain appropriate fluid levels and operate the vehicle correctly.
- ✚ Remember that the driver is your ambassador to the public. How they present themselves reflects on the company at large. Clean, neat, courteous, and knowledgeable drivers will help you sell more products.
- ✚ Plan trips to reduce mileage if possible. Work out a delivery route and stick to the agreed arrival times.

- ✦ While special delivery service will please customers, it may not be profitable. It may not be possible to please every customer. The author learned this the hard way.
- ✦ Consider reducing delivery frequency. Some customers will require every other day or twice weekly, while others can accommodate weekly drops.
- ✦ Encourage the driver to learn your customers' needs such that shortages and returns seldom occur. After all, they are the ones meeting with the customer more often than you.
- ✦ Load to rated truck capacity. It is not only dangerous but could be costly in overload citations and liability claims should an accident occur.
- ✦ Consider multiple uses for the truck. An asset that sits for much of the week costs more than one that can provide the business with greater value. For instance, installing a rail system in a refrigerated truck will enable you to haul carcasses from the slaughter facility to yours and then be used to deliver product to customers—provided that disposable plastic sheeting or cleanup occurs between duties.
- ✦ Match the size of your truck to the volume of business and distance traveled. A 48 foot refrigerated big rig costs almost as much in fuel and labor as a single axle refrigerated van but can carry almost 4 times the volume! On a cost per pound or cost per mile, it may be beneficial to look at more efficient delivery vehicles.
- ✦ Consider having a professional distributor take your product to market. There are many factors for and against this; loading/off-loading logistics, volume, frequency, rate, quality and quantity of product upon arrival etc. You will need to put a sharp pencil to this and decide what is best for your situation.
- ✦ Customer pickup eliminates delivery expense.

Element #2 – Facility Ownership and Funding

Contractor will identify research and recommend optimal ownership structures and funding options for a USDA certified slaughter facility. Contractor will provide a comprehensive report detailing funding options to include public/private partnerships, private ownership and cooperative agreements. Contractor will provide an estimate for initial operation to include land acquisition and facility construction.

Estimate for initial operation land acquisition and facility construction

At this time there is no clear path forward to make this determination. The contractor has instead included resources for the potential entrepreneur to study and exploit should they decide to execute on a plan.

Facility ownership and Organizational Structure

Provided below is a recommended “boiler plate” Limited Liability Agreement of [Our Company]. We have determined that our business family is not best served through an agricultural cooperative agreement and chose to maintain a 67% controlling interest in our new business venture. This LLC will offer us a level of legal protection against the unlikely event that something could go wrong, be it with a potential creditor, a product liability/recall issue, or some other unforeseen circumstance. You should contact your legal counsel for more information on formation and filing an LLC Agreement and the appointment of a registered agent.

LIMITED LIABILITY COMPANY AGREEMENT

Of [Our Company], LLC

THIS LIMITED LIABILITY COMPANY AGREEMENT (“Agreement”) is made and entered into effective as of [Date] by and among the Persons whose signatures appear on the signature page below and is binding upon every other person that becomes subject thereto as provided herein.

ARTICLE 1 -- DEFINITIONS

The following terms used in this Agreement shall have the following meanings unless otherwise expressly provided herein:

“**Act**” means the [Washington] Limited Liability Company Act (RCW Chap. 25.15).

“**Affiliate**” means, with respect to any Person, any other Person directly or indirectly controlling, controlled by, or under common control with such person; any person owning or controlling more than fifty percent of the outstanding voting interests of such person; any officer, director, or general partner of such person; or any person who is an officer, director, general partner, trustee, or holder of more than fifty percent of the voting interest of any person described above. For purposes of this definition, the term “controls,” “is controlled by,” or “is under common control with” shall mean the possession, direct or indirect, of the power to direct or cause the direction of the management and policies of a person, whether through the ownership of voting securities, by contract or otherwise.

“**Capital Account**” means the capital account determined and maintained for each Unit Holder pursuant to Section 8.3.

“Capital Contribution” means any contribution to the capital of the Company in cash or property by a Member whenever made.

“Certificate of Formation” means the certificate of formation pursuant to which the Company was formed, as originally filed with the office of the Secretary of State and as amended from time to time.

“Code” means the Internal Revenue Code of 1986, as amended, or corresponding provisions of subsequent superseding federal revenue laws.

“Company” means “[Our Company], LLC”.

“Company Minimum Gain” has the same meaning as the term “partnership minimum gain” in Regulation Sections 1.704-2(b) (2) and 1.704-2(d).

“Deficit Capital Account” means with respect to any Unit Holder, the deficit balance, if any, in such Unit Holder’s Capital Account as of the end of the taxable year, after giving effect to the following adjustments:

(a) credit to such Capital Account any amount that such Unit Holder is obligated to restore to the Company under Regulation Section 1.704-1(b) (2) (II) (c), as well as any addition thereto pursuant to the next to last sentences of Regulation Sections 1.704-2(g) (1) and (i) (5); and

(b) debit to such Capital Account the items described in Regulation Sections 1.704-1(b)(2)(ii)(d)(4), (5) and (6).

This definition is intended to comply with the provisions of Regulation Sections 1.704—1(b) (2) (ii) (d) and 1.704-2, and will be interpreted consistently with those provisions.

“Distributable Cash” means all cash received by the Company, less the sum of the following to the extent paid or set aside by the Company: (i) all principal and interest payments on indebtedness of the company and other sums paid or payable to lenders; (ii) all cash expenditures incurred incident to the normal operation of the Company’s business; and (iii) Reserves.

“Economic Interest” means a Unit Holder’s share of Net Profits, Net Losses, and other tax items of the Company and distributions of the Company’s assets pursuant to this Agreement and the Act, but shall not include any right to participate in the management or affairs of the Company, including, the right to vote on, consent to or otherwise participate in any decision of the Members.

“Economic Interest Owner” means the owner of an Economic Interest who is not a Member.

“Entity” means any general partnership, limited partnership, Limited Liability Company, limited liability partnership, corporation, joint venture, trust, business trust, cooperative or association or any other organization that is not a natural person.

“Majority Interest” means, at any time, more than fifty percent of the then outstanding Units held by Members.

“Manager” means [XYZ] and any other Person who may become a substitute or additional Manager as provided in Article 5.

“Member” means each Person who executes a counterpart of this Agreement as a Member and each Person who may hereafter become a Member. To the extent a Manager has purchased a Membership Interest in the Company, it will have all the rights of a Member with respect to such Membership Interest, and the term “Member” as used herein shall include a Manager to the extent it has purchased a Membership Interest in the Company. If a Person is a Member immediately prior to the acquisition by such Person of an Economic Interest, such Person shall have all the rights of a Member with respect to such Economic Interest.

“Membership Interest” means all of a Member’s share in the Net Profits, Net Losses, and other tax items of the Company and distributions of the Company’s assets pursuant to this Agreement and the Act and all of a Member’s rights to participate in the management or affairs of the Company, including the right to vote on, consent to or otherwise participate in any decision of the Members.

“Member Minimum Gain” has the same meaning as the term “partner nonrecourse debt minimum gain” in Regulation Section 1.704-2(i).

“Member Nonrecourse Deductions” has the same meaning as the term “partner nonrecourse deductions” in Regulation Sections 1.704-2(i) (1) and (2). The amount of Member Nonrecourse Deductions for a Company fiscal year shall be determined in accordance with Regulation Section 1.704-2(i) (2).

“Net Profits” and “Net Losses” shall have the meaning ascribed to those terms in Section 9.5.

“Nonrecourse Deductions” has the meaning set forth in Regulation Section 1.704-2(b)(1). The amount of Nonrecourse Deductions for a Company fiscal year shall be determined pursuant to Regulation Section 1.704-2(c).

“Nonrecourse Liability” has the meaning set forth in Regulation Section 1.704-2(b) (3).

“Percentage Interest” means with respect to any Unit Holder the percentage determined based upon the ratio that the number of Units held by such unit Holder bears to the total number of outstanding Units.

“Person” means any individual or Entity, and the heirs, executors, administrators, legal representatives, successors, and assigns of such “Person” where the context so permits.

“Regulations” includes proposed, temporary and final Treasury regulations promulgated under the Code and the corresponding sections of any regulations subsequently issued that amend or supersede such regulations.

“Reserves” means, with respect to any fiscal period, funds set aside or amounts allocated during such period to reserves which shall be maintained in amounts deemed sufficient by the Manager for working capital and to pay taxes, insurance, debt service or other costs or expenses incident to the ownership or operation of the Company’s business.

“Unit Holder” means a Person who is a Member or who holds an Economic Interest but is not a Member.

“Units” means the Units issued to any Member under this Agreement as reflected in attached Schedule 1, as amended from time to time.

ARTICLE 2--FORMATION OF COMPANY

2.1 Formation. The Company was formed on [Date], when the Certificate of Formation was executed and filed with the office of the Secretary of State in accordance with and pursuant to the Act.

2.2 Name. The name of the Company is “[Our Company], LLC”.

2.3 Principal Place of Business. The principal place of business of the Company shall be PO Box 1252, Walla Walla, Washington. The Company may locate its places of business at any other place or places as the Manager may from time to time deem advisable.

2.4 Registered Office and Registered Agent. The Company’s initial registered agent and the address of its initial registered office in the State of [State] are as follows:

[Address]

The registered office and registered agent may be changed by the Manager from time to time

by filing an amendment to the Certificate of Formation.

2.5 Term. The term of the Company shall be thirty (30) years from the date of formation of the Company, unless the Company is earlier dissolved in accordance with either Article 14 or the Act.

ARTICLE 3 -- BUSINESS OF COMPANY

The business of the Company shall be:

(a) to carry on any lawful business or activity which may be conducted by a limited liability company organized under the Act; and

(b) to exercise all other powers necessary to or reasonably connected with the Company's business which may be legally exercised by limited liability companies under the Act.

(c) specifically, the current activity of the Company shall include but not be limited to: (1) The slaughtering and processing of our livestock into meat products (2) Custom processing of livestock for other producers

ARTICLE 4 -- NAMES AND ADDRESSES OF MEMBERS

The names and addresses of the Members are set forth on attached Schedule 1, as amended or restated from time to time.

ARTICLE 5 -- MANAGERS, RIGHTS AND DUTIES

5.1 Management. The business and affairs of the Company shall be managed by the Manager. Except as otherwise expressly provided in this Agreement, the Manager shall have full and complete authority, power and discretion to manage and control the business, affairs and properties of the Company, to make all decisions regarding those matters and to perform any and all other acts or activities customary or incident to the management of the Company's business. At any time when there is more than one Manager, any one Manager may take any action permitted to be taken by the Managers, unless the approval of more than one of the Managers is expressly required by this Agreement or the Act. Without limiting the generality of the foregoing, the Manager shall have power and authority, on behalf of the Company:

(a) to acquire property from any Person as the Manager may determine, and the fact that a Manager or a Member is an Affiliate of such Person shall not prohibit the Manager from dealing

with that Person;

(b) to borrow money from financial institutions, the Manager, Members, or Affiliates of the Manager or Members on such terms as the Manager deems appropriate, and in connection therewith, to hypothecate, encumber and grant security interests in the assets of the Company to secure repayment of the borrowed sums;

(c) to purchase liability and other insurance to protect the Company's property and business;

(d) except as provided in Section 6.3, to acquire, improve, manage, charter, operate, sell, transfer, exchange, encumber, pledge or dispose of any real or personal property of the Company;

(e) to invest Company funds temporarily in time deposits, short-term governmental obligations, commercial paper or other short-term investments;

(f) to execute instruments and documents, including without limitation, checks, drafts, notes and other negotiable instruments, mortgages or deeds of trust, security agreements, financing statements, documents providing for the acquisition, mortgage or disposition of the Company's property, assignments, bills of sale, leases, partnership agreements, operating agreements of other limited liability companies, and any other instruments or documents necessary, in the opinion of the Manager, to the business of the Company;

(g) to employ accountants, legal counsel, managing agents or other experts to perform services for the Company and to compensate them from Company funds;

(h) to enter into any and all other agreements with any other Person for any purpose, in such form as the Manager may approve;

(i) from time to time open bank accounts in the name of the Company, and the Manager shall be the sole signatory thereon, unless the Manager determines otherwise; and

(j) to do and perform all other acts as may be necessary or appropriate to the conduct of the Company's business.

Unless authorized to do so by this Agreement or by the Manager, no Member, employee or other agent of the Company shall have any power or authority to bind the Company in any way, to pledge its credit or to render it liable for any purpose.

5.2 Compensation. The Manager shall receive reasonable compensation based on their services to the Company. Such compensation shall be payable in such amounts and at such times as to

the Manager are prudent, considering the Company's cash flow and Reserves requirements.

The Manager shall also be reimbursed by the Company for reasonable out-of-pocket expenses incurred by the Manager in connection with the Company's business, including without limitation expenses incurred in the organization of the Company and the placement of the Units.

5.3 Limitation on Liability; Indemnification. Neither the Manager nor any Affiliate of the Manager shall be liable, responsible or accountable in damages or otherwise to the Company or the Members for any act or omission by any such Person performed in good faith pursuant to the authority granted to such Person by this Agreement or in accordance with its provisions, and in a manner reasonably believed by such Person to be within the scope of the authority granted to such Person and in the best interest of the Company; provided that such act or omission did not constitute fraud, misconduct, bad faith or gross negligence. The Company shall indemnify and hold harmless the Manager, and each director, officer, partner, employee or agent thereof, against any liability, loss, damage, cost or expense incurred by them on behalf of the Company or in furtherance of the Company's interests without relieving any such Person of liability for fraud, misconduct, bad faith or negligence. No member shall have any personal liability with respect to the satisfaction of any required indemnification of the above-mentioned Persons.

Any indemnification required to be made by the Company shall be made promptly following the fixing of the liability, loss, damage, cost or expense incurred or suffered by a final judgment of any court, settlement, contract or otherwise. In addition, the Company may advance funds to a Person claiming indemnification under this section for legal expenses and other costs incurred as a result of a legal action brought against such Person only if (1) the legal action relates to the performance of duties or services by the Person on behalf of the Company, (2) the legal action is initiated by a party other than a Member, and (3) such Person undertakes to repay the advanced funds to the Company if it is determined that such Person is not entitled to indemnification pursuant to the terms of this Agreement.

5.4 Removal. At a meeting called expressly for that purpose, the Manager may be removed at any time, with or without cause, by the affirmative vote of the holders of a Majority Interest. The removal of a Manager who is also a Member shall not affect the Manager's rights as a Member and shall not constitute a withdrawal of a Member.

5.5 Vacancies. Any vacancy occurring for any reason in the number of Managers may be filled by the affirmative vote of a majority of the remaining Managers. If there are no remaining Managers, the vacancy shall be filled by the affirmative vote of the holders of a Majority

Interest.

5.6 Right to Rely on the Manager. Any Person dealing with the Company may rely (without duty of further inquiry) upon a certificate signed by any Manager as to the identity and authority of any manager or other Person to act on behalf of the Company or any Member.

ARTICLE 6 -- RIGHTS AND OBLIGATIONS OF MEMBERS

6.1 Limitation of Liability. Each Member's liability shall be limited as set forth in this Agreement and the Act.

6.2 Liability for Company obligations. Members shall not be personally liable for any debts, obligations or liabilities of the Company beyond their respective Capital Contributions and any obligation of the Members under Section 8.1 or 8.2 to make Capital Contributions, except as otherwise provided by law.

6.3 Approval of Sale of All Assets. The Company shall not sell, exchange or otherwise dispose of all, or substantially all, of its assets without the affirmative vote of the holders of a Majority Interest.

6.4 Inspection of Records. Upon reasonable request, each Member shall have the right to inspect and copy at such Member's expense, during ordinary business hours the records required to be maintained by the Company pursuant to Section 11.5.

6.5 No Priority and Return of Capital. Except as expressly provided in Article 9 or 10, no Unit Holder shall have priority over any other Unit Holder, either as to the return of Capital Contributions or as to Net Profits, Net Losses or distributions; provided that this section shall not apply to loans made by a Member to the Company.

6.6 Withdrawal of Member. Except as expressly permitted in this Agreement, no Member shall voluntarily resign or otherwise withdraw as a Member. Unless otherwise approved by Members holding a Majority Interest, a Member who resigns or withdraws shall be entitled to receive only those distributions to which such Person would have been entitled had such Person remained a Member (and only at such times as such distribution would have been made had such Person remained a Member). Except as otherwise expressly provided herein, a resigning or withdrawing Member shall become an Economic Interest Owner. The remedy for breach of this section shall be monetary damages (and not specific performance), to which may be offset

against distributions by the Company to which such Person would otherwise be entitled.

ARTICLE 7--MEETING OF MEMBERS

7.1 Annual Meeting. The annual meeting of the Members shall be held on or near January 31 of each and every year, or at such other time as shall be determined by the Members, for the purpose of the transaction of such business as may come before the meeting.

7.2 Special Meetings. Special meetings of the Members, for any purpose or purposes, may be called by the Manager or by Members holding at least ten percent of the Units held by Members.

7.3 Place of Meetings. The Manager or the Members may designate any place, either within or outside the State of [State], as the place of meeting for any meeting of the Members. If no designation is made, or if a special meeting is called, the place of meeting shall be the principal office of the Company specified in this Agreement.

7.4 Notice of Meetings. Written notice stating the place, day and hour of the meeting and, in the case of a special meeting, the purpose or purposes for which the meeting is called shall be delivered not less than ten nor more than fifty days before the date of the meeting, either personally or by mail, by or at the direction of the Manager or the Members called the meeting, to each Member entitled to vote at such meeting. If mailed, such notice shall be deemed to be delivered two calendar days after being deposited in the United States Mail, addressed to the Member as specified in Section 16.1 with postage thereon prepaid.

7.5 Record Date. For the purpose of determining Members entitled to notice of or to vote at any meeting of Members or any adjournment thereof, or Members entitled to receive payment of any distribution, the date on which notice of the meeting is mailed or the date on which the resolution declaring such distribution is adopted, as the case may be, shall be the record date for such determination of Members. When a determination of Members entitled to vote at any meeting of Members has been made as provided in this Section, such determination shall apply to any adjournment thereof.

7.6 Quorum. A Majority Interest represented in person or by proxy shall constitute a quorum at any meeting of Members. In the absence of a quorum at any such meeting, a majority of Units held by Members so represented may adjourn the meeting from time to time for a period not to exceed sixty days without further notice. However, if the adjournment is for more than sixty days, or if after the adjournment a new record date is fixed for the adjourned meeting, a notice of the adjourned meeting shall be given to each Member of record entitled to vote at the

meeting. At such adjourned meeting at which a quorum shall be present or represented, any business may be transacted which might have been transacted at the meeting as originally noticed. The Members present at a duly organized meeting may continue to transact business until adjournment, notwithstanding the withdrawal during such meeting of that number of Units whose absence would cause less than a quorum.

7.7 Manner of Acting. If a quorum is present, the affirmative vote of Members holding more than fifty percent of the Units represented at the meeting in person or by proxy shall be the act of the Members, unless the vote of a greater or lesser percentage is required by this Agreement or the Act.

7.8 Proxies. At all meetings of Members a Member may vote in person or by proxy executed in writing by the Member. Such proxy shall be filed with the Manager before or at the time of the meeting. No proxy shall be valid after eleven months from the date of its execution, unless otherwise provided in the proxy.

7.9 Action by Members Without a Meeting. Action required or permitted to be taken at a meeting of Members may be taken without a meeting if the action is evidenced by one or more written consents describing the action taken, executed by Members entitled to vote thereon and delivered to the Manager for inclusion in the Company's minutes. Action taken under this section is effective when Members entitled to vote thereon have signed such consents, unless such consents specify a different effective date. The record date for determining Members entitled to take action without a meeting shall be the date the first Member signs a consent.

7.10 Waiver of Notice. When any notice is required to be given to a Member, a waiver thereof in writing signed by the Member entitled to such notice, whether before, at, or after the time stated therein, shall be equivalent to the giving of such notice.

ARTICLE 8 -- CONTRIBUTIONS TO THE COMPANY AND CAPITAL ACCOUNTS

8.1 Members' Capital Contributions. Each Member shall contribute such amount as is set forth in attached Schedule 1 as such Member's share of the Members' Capital Contribution.

8.2 Capital Accounts.

8.2.1 Establishment and Maintenance. A separate Capital Account will be maintained for each Unit Holder throughout the term of the Company in accordance with the rules of Regulation Section 1.704-1(b)(2)(iv). Each Unit Holder's Capital Account will be increased by (1) the amount

of money contributed by such Unit Holder to the Company; (2) the fair market value of property contributed by such Unit Holder to the Company (net of liabilities secured by such contributed property that the Company is considered to assume or take the property subject to under Code Section 752); (3) allocations to such Unit Holder of Net Profits; (4) any items in the nature of income and gain that are specially allocated to the Unit Holder pursuant to Sections 9.2 and 9.3 and (5) allocations to such Unit Holder of income and gain exempt from federal income tax. Each Unit Holder's Capital Account will be decreased by (1) the amount of money distributed to such Unit Holder by the Company; (2) the fair market value of property distributed to such unit Holder by the Company (net of liabilities secured by such distributed property that such Unit Holder is considered to assume or take the property subject to Code Section 752); (3) allocations to such Unit Holder of expenditures described in Code Section 705(a)(2)(B); (4) any items in the nature of deduction and loss that are specially allocated to the Unit Holder pursuant to Sections 9.2 and 9.3 and (5) allocations to such Unit Holder of Net Losses. In the event of a permitted sale or exchange of a Membership Interest or an Economic Interest in the Company, the Capital Account of the transferor shall become the Capital Account of the transferee to the extent it relates to the transferred Membership Interest or Economic Interest.

8.2.2 Compliance with Regulations. The manner in which Capital Accounts are to be maintained pursuant to this section is intended to comply with the requirements of Code Section 704(b) and the Regulations promulgated thereunder. If in the opinion of the Company's legal counsel or accountants the manner in which Capital Accounts are to be maintained pursuant to the preceding provisions of this Section should be modified in order to comply with Code Section 704(b) and the Regulations thereunder, then notwithstanding anything to the contrary contained in the preceding provisions of this section, the method in which Capital Accounts are maintained shall be so modified; providing, however, that any change in the manner of maintaining Capital Accounts shall not materially alter the economic agreement between or among the Members.

8.3 Withdrawal or Reduction of Members' Contributions to Capital. A member shall not receive out of the Company's property any part of its Capital Contribution until all liabilities of the Company, except liabilities to Members on account of their Capital Contributions, have been paid or there remains property of the Company sufficient to pay them. A Member, irrespective to the nature of its Capital Contribution, has only the right to demand and receive cash in return for its Capital Contribution.

ARTICLE 9 -- ALLOCATIONS OF NET PROFITS AND LOSSES

9.1 Allocation of Net Profit and Loss -- In General.

9.1.1 Allocation of Net Profit or Loss. After giving effect to the special allocations set forth in this Article, the Net Profit or Net Loss for any fiscal year of the Company shall be allocated among the Unit Holders in accordance with their respective Percentage Interests.

9.1.2 Limitation. The Net Loss allocated to each Member for any Company fiscal year pursuant to Article shall not exceed the maximum amount of Net Loss that can be so allocated without causing such Member to have a Deficit Capital Account at the end of the fiscal year. All net Losses in excess of the limitation set forth in this section shall be allocated to the other Unit Holders who do not have Deficit Capital Accounts in proportion to their respective Percentage Interests.

9.2 Special Allocations. The following special allocations shall be made for any fiscal year of the Company in the following order:

9.2.1 Minimum Gain Chargeback. If there is a net decrease in Company Minimum Gain during any Company fiscal year, each Unit Holder shall be specially allocated items of Company income and gain for such year (and, if necessary, subsequent years) in an amount equal to such Unit Holder's share of the net decrease in Company Minimum Gain, determined in accordance with Regulation Sections 1.704-2(f) and 1.704-2(g)(2). The items to be so allocated, and the manner in which those items are to be allocated among the Unit Holders, shall be determined in accordance with Regulation Sections 1.704-2(f) and 1.704-2(j) (2). This section is intended to satisfy the minimum gain chargeback requirement in Regulation Section 1.704-2(f) and shall be interpreted and applied accordingly.

9.2.2 Member Minimum Gain Chargeback. If there is a net decrease in Member Minimum Gain during any Company fiscal year, each Unit Holder who has a share of that Member Minimum Gain, determined in accordance with Regulation Section 1.704-2(i) (5), shall be specially allocated items of Company income and gain for such year (and, if necessary, subsequent years) in an amount equal to such Unit Holder's share of the net decrease in Member Minimum Gain, determined in accordance with Regulation Sections 1.704-2(i) (4) and 1.704-2(i)(5). The items to be so allocated, and the manner in which those items are to be allocated among the Unit Holders, shall be determined in accordance with Regulation Sections 1.704-2(i) (4) and 1.704- 2(j)(2). This section is intended to satisfy the minimum gain chargeback requirement in Regulation Section 1.704-2(i)(4) and shall be interpreted and applied accordingly.

9.2.3 Qualified Income Offset. In the event that any Unit Holder unexpectedly receives any adjustments, allocations, or distributions described in Regulation Sections 1.704-1(b) (2) (ii) (d)

(4), (5) or (6), items of Company income and gain shall be specially allocated to such Unit Holder in an amount and in a manner sufficient to eliminate as quickly as possible, to the extent required by Regulation Section 1.704-(1) (b) (2) (ii) (d), the Deficit Capital Account of the Unit Holder (which Deficit Capital Account shall be determined as if all other allocations provided for in this Article have been tentatively made as if this section were not in this Agreement).

9.2.4 Nonrecourse Deductions. Nonrecourse Deductions shall be allocated among the Unit Holders in accordance with their respective Percentage Interests.

9.2.5 Member Nonrecourse Deductions. Any Member Nonrecourse Deductions shall be specially allocated among the Unit Holders in accordance with Regulation Section 1.704-2(i).

9.3 Corrective Allocations.

9.3.1 Allocations to Achieve Economic Agreement. The allocations set forth in the last sentence of Section 9.1.2 and in Section 9.2 are intended to comply with certain regulatory requirements under Code Section 704(b). The Members intend that, to the extent possible, all allocations made pursuant to such Sections will, over the term of the Company, be offset either with other allocations pursuant to Section 9.2 or with special allocations of other items of Company income, gain, loss, or deduction pursuant to this section. Accordingly, the Manager is hereby authorized and directed to make offsetting allocations of Company income, gain, loss or deduction under this section in whatever manner the Manager determines is appropriate so that, after such offsetting special allocations are made, the Capital Accounts of the Unit Holders are, to the extent possible, equal to the Capital Accounts each would have if the provisions of Section 9.2 were not contained in this Agreement and all income, gain, loss and deduction of the Company were instead allocated pursuant to Section 9.1.1.

9.3.2 Waiver of Application of Minimum Gain Chargeback. The Manager (with the prior consent of a Majority Interest) shall request from the Commissioner of the Internal Revenue Service a waiver, pursuant to Regulation Section 1.704-2(f) (4), of the minimum gain chargeback requirements of Regulation Section 1.704-2(f) if the application of such minimum gain chargeback requirement would cause a permanent distortion of the economic arrangement of the Unit Holders, as reflected in Section 9.1.

9.4 Other Allocation Rules.

9.4.1 General. Except as otherwise provided in this Agreement, all items of Company income, gain, loss, deduction, and any other allocations not otherwise provided for shall be divided among the Unit Holders in the same proportions as they share Net Profits or Losses, as the case

may be, for the year.

9.4.2 Allocation of Recapture Items. In making any allocation among the Unit Holders of income or gain from the sale or other disposition of a Company asset, the ordinary income portion, if any, of such income and gain resulting from the recapture of cost recovery or other deductions shall be allocated among those Unit Holders who were previously allocated (or whose predecessors-in-interest were previously allocated) the cost recovery deductions or other deductions resulting in the recapture items, in proportion to the amount of such cost recovery deductions or other deductions previously allocated to them.

9.4.3 Allocation of Excess Nonrecourse Liabilities. Solely for purposes of determining a Unit Holder's proportionate share of the "excess nonrecourse liabilities" of the Company within the meaning of Regulation Section 1.752-3(a) (3), the Unit Holders' interests in the Company's profits shall be the same as their respective interests.

9.4.4 Allocations in Connection with Varying Interests. If, during a Company fiscal year, there is (i) a permitted transfer of a Membership Interest or Economic Interest under this Agreement during a Company fiscal year or (ii) the admission of a Member or additional Members, Net Profit, Net Loss, each item thereof, and all other tax items of the Company for such period shall be divided and allocated among the Unit Holders by taking into account their varying interests during such fiscal year in accordance with Code Section 706(d) and using any conventions permitted by law and selected by the Manager.

9.5 Determination of Net Profit or Loss.

9.5.1 Computation of Net Profit or Loss. The Net Profit or Net Loss of the Company, for each fiscal year or other period, shall be an amount equal to the Company's taxable income or loss for such period, determined in accordance with Code Section 703(a) (and, for this purpose, all items of income, gain, loss or deduction required to be stated separately pursuant to Code Section 703(a) (1), including income and gain exempt from federal income tax, shall be included in taxable income or loss).

9.5.2 Adjustments to Net Profit or Loss. For purposes of computing taxable income or loss on the disposition of an item of Company property or for purposes of determining the cost recovery, depreciation, or amortization deduction with respect to any property, the Company shall use such property's book value determined in accordance with Regulation Section 1.704-1(b). Consequently, each property's book value shall be equal to its adjusted basis for federal income tax purposes, except as follows:

(a) The initial book value of any property contributed by a Member to the Company shall be the

gross fair market value of such property at the time of contribution;

(b) In the sole discretion of the Members holding fifty percent of the Units held by Members, the book value of all Company properties may be adjusted to equal their respective gross fair market values, as determined by the Members of the following times: (1) in connection with the acquisition of an interest in the Company by a new or existing Member for more than a de minimis capital contribution, (2) in connection with the liquidation of the Company as defined in Regulation Section 1.704-1(b)(2)(ii)(g), or (3) in connection with a more than de minimis distribution to a retiring or a continuing Unit Holder as consideration for all or a portion of his or its interest in the Company. In the event of a revaluation of any Company assets hereunder, the Capital Accounts of the Unit Holders shall be adjusted, including continuing adjustments for depreciation, to the extent provided in Regulation Section 1.704-1(b)(2)(iv)(f);

(c) If the book value of an item of Company property has been determined pursuant to this Section, such book value shall thereafter be used, and shall thereafter be adjusted by depreciation or amortization, if any, taken into account with respect to such property, for purposes of computing taxable income or loss.

9.5.3 Items Specially Allocated. Notwithstanding any other provision of this Article, any items that are specially allocated pursuant to Sections 9.2 or 9.3 shall not be taken into account in computing Net Profit or Net Loss.

9.6 Mandatory Tax Allocations Under Code Section 704(c). In accordance with Code Section 704(c) and Regulation Section 1.704-3, income, gain, loss and deduction with respect to any property contributed to the capital of the Company shall, solely for tax purposes, be allocated among the Unit Holders so as to take account of any variation between the adjusted basis of such property to the Company for federal income tax purposes and its initial book value computed in accordance with Paragraph (a) of Section 9.5.2. Prior to the contribution of any property to the Company that has a fair market value that differs from its adjusted tax basis in the hands of the contributing Member on the date of contribution, the contributing Member and the Manager (or, if the contributing Member is the Manager, a Majority Interest of the non-contributing Members) shall agree upon the allocation method to be applied with respect to that property under Regulation Section 1.704-3, which allocation method shall be set forth on attached Schedule 2 as amended from time to time.

If the book value of any Company property is adjusted pursuant to Paragraph (b) of Section 9.5.2, subsequent allocations of income, gain, loss and deduction with respect to such property shall take account of any variation between the adjusted basis of such property for federal income tax purposes and its book value in the same manner as under Code Section 704(c). The choice of allocation methods under Regulation Section 1.704-3 with respect to such revalued

property shall be made by the Manager and set forth on attached Schedule 2 as amended from time to time.

ARTICLE 10--DISTRIBUTIONS

10.1 Cash Distributions.

10.1.1 Nonliquidating Distributions. Distributions of Distributable Cash, other than distributions in liquidation pursuant to Section 10.1.2, shall be made to the Unit Holders in the following order of priority:

- a) To pay the interest due on any loans made by any of the Members to the Company pursuant to Section 11.3;
- b) To repay the principal of any such loans;
- c) Among Members, pro rata, first as an advance against profits for the year of distribution to the extent of the credit balance in their drawing account and then as a return of capital, and then
- d) Among Economic Interest Owners, pro rata

10.1.2 Distributions in Liquidation. Notwithstanding Section 10.1.1, distributions in liquidation of the Company shall be made to each Unit Holder in the manner set forth in Section 14.3 (c).

10.2 Distributions in Kind. Non-cash assets, if any, shall be distributed in a manner that reflects how cash proceeds from the sale of such assets of fair market value would have been distributed (after any unrealized gain or loss attributable to such non-cash assets has been allocated among the Unit Holders in accordance with Article 9).

10.3 Withholding; Amounts Withheld Treated as Distributions. The Manager is authorized to withhold from distributions, or with respect to allocations or payments, to Unit Holders and to pay over to the appropriate federal, state or local governmental authority any amounts required to be withheld pursuant to the Code or provisions of applicable state or local law. All amounts withheld pursuant to the preceding sentence in connection with any payment, distribution or allocation to any Unit Holder shall be treated as amounts distributed to such Unit Holder pursuant to this Article for all purposes of this Agreement.

10.4 Limitations Upon Distributions. No distribution shall be declared and paid unless, after the distribution is made, the assets of the Company are in excess of all liabilities of the Company,

except liabilities to Members on account of their contributions.

ARTICLE 11 -- ACCOUNTING, BOOKS AND RECORDS

11.1 Accounting Principles. The Company's books and records shall be kept, and its income tax returns prepared, under such permissible method of accounting, consistently applied, as the Manager determines is in the best interest of the Company and its Members.

11.2 Interest on the Return of Capital Contributions. No Member shall be entitled to interest on its Capital Contribution or to return of its Capital Contribution, except as otherwise specifically provided for herein.

11.3 Loans to Company. Nothing in this Agreement shall prevent any Member from making secured or unsecured loans to the Company.

11.4 Accounting Period. The Company's accounting period shall be the calendar year.

11.5 Records, Audits and Reports. At the expense of the Company, the Manager shall maintain records and accounts of all operations and expenditures of the Company. At a minimum the Company shall keep at its principal place of business the following records:

- (a) A current list and past list, setting forth the full name and last known mailing address of each Member, Economic Interest Owner and Manager;
- (b) A copy of the Certificate of Formation and all amendments thereto;
- (c) Copies of this Agreement and all amendments hereto;
- (d) Copies of the Company's federal, state, and local tax returns and reports, if any, for the three most recent years;
- (e) Minutes of every meeting of the members and any written consents obtained from Members for actions taken by Members without a meeting; and
- (f) Copies of the Company's financial statements for the three most recent years.

11.6 Tax Matters Partner.

11.6.1 Designation. The Manager, or if the Manager is ineligible to serve then the Member with the largest interest in Company profits, shall be the "tax matters partner" of the Company for purposes of Code Section 6221 et seq. and corresponding provisions of any state or local tax

law.

11.6.2 Expenses of Tax Matters Partner; Indemnification. The Company shall indemnify and reimburse the tax matters partner for all reasonable expenses, including legal and accounting fees, claims, liabilities, losses and damages incurred in connection with any administrative or judicial proceeding with respect to the tax liability of the Unit Holders attributable to the Company. The payment of all such expenses shall be made before any distributions are made to Unit Holders (and such expenses shall be taken into consideration for purposes of determining Distributable Cash) or any discretionary Reserves are set aside by the Manager. Neither the tax matters partner nor any Member shall have any obligation to provide funds for such purpose. The provisions for exculpation and indemnification of the Manager set forth in Section 5.3 of this Agreement shall be fully applicable to the Member acting as tax matters person for the Company.

11.7 Returns and Other Elections. The Manager shall cause the preparation and timely filing of all tax and information returns required to be filed by the Company pursuant to the Code and all other tax and information returns deemed necessary and required in each jurisdiction in which the Company does business. Copies of such returns, or pertinent information therefrom, shall be furnished to the Unit Holders within a reasonable time after the end of the Company's fiscal year.

Except as otherwise expressly provided to the contrary in this Agreement, all elections permitted to be made by the Company under federal or state laws shall be made by the Manager in his or its sole discretion.

ARTICLE 12--TRANSFERABILITY

12.1 General. Except as otherwise expressly provided in this Agreement, neither a Member nor an Economic Interest Owner shall have the right to:

(a) sell, assign, transfer, exchange or otherwise transfer for consideration, (collectively, "sell" or "sale"),

(b) gift, bequeath or otherwise transfer for no consideration whether or not by operation of law, except in the case of bankruptcy (collectively "gift"), of all or any part of its Membership Interest or Economic Interest. Each Member and Economic Interest Owner hereby acknowledges the reasonableness of the restrictions on sale and gift of Membership Interests and Economic Interests imposed by this Agreement in view of the Company's purposes and the relationship of the Members and Economic Interest Owners. Accordingly, the restrictions on

sale and gift contained herein shall be specifically enforceable. In the event that any Unit Holder pledges or otherwise encumbers any of its Membership Interest or Economic Interest as security for repayment of a liability, any such pledge or hypothecation shall be made pursuant to a pledge or hypothecation agreement that requires the pledgee or secured party to be bound by all the terms and conditions of this Article.

12.2 First Refusal Rights.

(a) A Unit Holder desiring to sell all or any portion of its Membership Interest or Economic Interest to a third party purchaser shall obtain from such third party purchaser a bona fide written offer to purchase such Interest, stating the terms and conditions upon which the purchase is to be made and the consideration offered therefor. Such Unit Holder shall give written notice to the other Unit Holders and the Manager of its intention to so transfer such Interest. Such notice shall set forth the complete terms of the written offer to purchase and the name and address of the proposed third party purchaser.

(b) The other Unit Holders, shall, on a basis pro rata to their Units or on a basis pro rata to the Units of those remaining Unit Holders exercising their first refusal rights, have the first right to purchase all (but not less than all) of the Interests proposed to be sold by the seller Unit Holder upon the same terms and conditions stated in the notice given pursuant to Section 12.2 (a) by giving written notice to the other Unit Holders and the Manager within ten days after such notice from the selling Unit Holder. The failure of a Unit Holder to so notify the other Unit Holders and the Manager of its desire to exercise its first refusal rights within said ten-day period as required by this section shall result in the termination of such Unit Holder's first refusal rights.

Within ten days after expiration of the ten-day period specified in the preceding paragraph, the Manager shall notify those Unit Holders electing to exercise their first refusal rights of any Units that the other Unit Holders did not elect to purchase. Those Unit Holders exercising first refusal rights in accordance with the preceding paragraph shall then notify the Manager and the other purchasing Unit Holders whether they elect to purchase such remaining Units, which shall be pro rata or allocated in such other manner as the purchasing Unit Holders shall agree. If no such notification is received by the Manager from any such Unit Holders in accordance with this paragraph, no Unit Holder shall have any further first refusal rights with respect to such Units.

If Unit Holders have elected to purchase all of the Units offered by the selling Unit Holder, the selling Unit Holder shall sell such Units upon the same terms and conditions specified in the notice required by Section 12.2(a) and the purchasing Unit Holders shall have the right to close

the purchase within thirty days after receipt of notification from the Manager that such Unit Holders have elected to purchase the selling Unit Holder's Units.

If Unit Holders do not elect to purchase all of the Units offered by the selling Unit Holder in accordance with this section, then the selling Unit Holder shall be entitled to sell such Units to the third party purchase in accordance with the terms and conditions upon which the purchase is to be made as specified in the notice under (a) of this section. However, if such sale is not completed within thirty days following expiration of the other Unit Holders' first refusal rights under this section, then the selling Unit Holder shall not be entitled to complete the sale to such third party purchaser and the selling Unit Holder's Units shall continue to be subject to the rights of first refusal set forth in this section with respect to any proposed subsequent transfer.

(c) Upon the purchase or the gift of a Membership Interest or an Economic Interest, and as a condition to recognizing the effectiveness and binding nature of any sale or gift and (subject to Section 12.3 below) substitution of a Person as a new Unit Holder, the Manager may require the transferring Unit Holder and the proposed purchaser, donee or successor-in-interest, as the case may be to execute, acknowledge and deliver to the manager such instruments of transfer, assignment and assumption and such other agreements and to perform all such other acts that the Manager may deem necessary or desirable to:

(i) constitute such Person as a Unit Holder;

(ii) confirm that the Person desiring to become a Unit Holder, has accepted, assumed and agreed to be subject and bound by all of the terms, obligations and conditions of this Agreement (whether such Person is to be admitted as a new Member or will merely be an Economic Interest Owner);

(iii) maintain the status of the Company as a partnership for federal tax purposes; and

(iv) assure compliance with any applicable state and federal laws, including securities laws and regulations.

(d) Any sale or gift of a Membership Interest or Economic Interest or admission of a Member in compliance with this Article shall be deemed effective as of the last day of the calendar month in which the remaining Members' consent thereto was given, or, if no such consent was required pursuant to Section 12.3 then on such date that the transferor and the transferee both comply with Section 12.2(c) The transferring Unit Holder hereby indemnifies the Company and the Manager against any and all loss, damage, or expense (including, without limitation, tax liabilities or loss of tax benefits) arising directly or indirectly as a result of any transfer or purported transfer in violation of this Article.

(e) Subject to Section 12.3 a Unit Holder may gift all or any portion of its Membership Interest and Economic Interest (without regard to Section 12.2(a) and (b)), provided, that the donee complies with Section 12.2(c) and further provided that the donee is either such unit Holder's spouse, former spouse, or lineal descendent (including adopted children). In the event of the gift of all or any portion of a Unit Holder's Membership Interest or Economic Interest to one or more donees who are under 18 years of age, one or more trusts shall be established to hold the gifted interest(s) for the benefit of such donee(s) until all of the donee(s) reach the age of at least 18 years.

12.3 Transferee Not Member in Absence of Consent.

(a) Notwithstanding anything to the contrary in this Article, if the sale or gift of a Member's Membership Interest or Economic Interest to a transferee or donee which is not a Member immediately prior to the sale or gift is not approved in writing by all of the other Members, in their sole discretion, then the proposed transferee or donee shall have no right to participate in the management of the business and affairs of the Company or to become a Member. Such transferee or donee shall be merely an Economic Interest Owner.

(b) Promptly following any sale or gift of a Member's Economic Interest which does not at the same time transfer the balance of the rights associated with such Person's Membership Interest, the Company shall purchase from such Person, and such Person shall sell to the Company for a purchase price of \$100, all such remaining rights and interests retained by such Person which immediately prior to such sale or gift were associated with the transferred Economic Interest. The acquisition by the Company of such Person's rights shall not cause a dissolution of the Company and such Person shall no longer be a Member.

ARTICLE 13--ADDITIONAL MEMBERS

An Economic Interest Owner or any other Person not a Member may become a Member by the unanimous affirmative vote or consent of the remaining Membership Interests. Any person may be added as an additional Member upon satisfaction of such terms and conditions approved by the Members. Notwithstanding the foregoing, a person shall not become an additional Member unless and until such person becomes a party to this Agreement by executing such documents and instruments as the Manager may reasonably request as additional, necessary or appropriate to confirm such person as a Member in the Company and, therefore, subject to this Agreement.

ARTICLE 14--DISSOLUTION AND TERMINATION

14.1 Dissolution. The Company shall be dissolved upon the occurrence of any of the following events:

(a) upon expiration of the term specified in Section 2.5;

(b) by the written agreement of all Members; or

(c) a Person ceases to be a Member upon the occurrence of any of the events specified in RCW 25.15.130, unless the business of the Company is continual with the consent of all of the remaining Members within ninety days following the occurrence of such event.

14.2 Allocation of Net Profit and Loss in Liquidation. The allocation of Net Profit, Net Loss and other items of the Company following the date of dissolution, including but not limited to gain or loss upon the sale of all or substantially all of the Company's assets, shall be determined in accordance with the provisions of Articles 9 and 10 and shall be credited or charged to the Capital Accounts of the Unit Holders in the same manner as Net Profit, Net Loss, and other items of the Company would have been credited or charged if there were no dissolution and liquidation.

14.3 Winding Up, Liquidation and Distribution of Assets. Upon dissolution, the Manager shall immediately proceed to wind up the affairs of the Company, unless the business of the Company is continued as provided herein. The Manager shall sell or otherwise liquidate all of the Company's assets as promptly as practicable (except to the extent the Manager may determine to distribute any assets to the Unit Holders in kind) and shall apply the proceeds of such sale and the remaining Company assets in the following order of priority:

(a) Payment of creditors, including Members and Managers who are creditors, to the extent otherwise permitted by law, in satisfaction of liabilities of the Company, other than liabilities for distributions to Members;

(b) To establish any reserves that the Manager deems reasonably necessary for contingent or unforeseen obligations of the Company and, at the expiration of such period as the Manager shall deem advisable, the balance then remaining in the manner provided below;

(c) By the end of the taxable year in which the liquidation occurs (or, if later, within ninety days after the date of such liquidation), to the Unit Holders in proportion to the positive balances of their respective Capital Accounts, as determined after taking into account all Capital Account adjustments for the taxable year during which the liquidation occurs (other than those made

pursuant to this paragraph).

14.4 No Obligation to Restore Negative Capital Account Balance on Liquidation.

Notwithstanding anything to the contrary in this Agreement, upon a liquidation within the meaning of Regulation Section 1.704-1(b) (2) (ii) (g), if any Unit Holder has a negative Capital Account balance (after giving effect to all contribution, distributions, allocations and other Capital Account adjustments for all taxable years, including the year during which such liquidation occurs), such Unit Holder shall have no obligation to make any Capital Contribution to the Company, and the negative balance of such unit Holder's Capital Account shall not be considered a debt owed by such Unit Holder to the Company or to any other Person for any purpose whatsoever.

14.5 Termination. The Manager shall comply with any applicable requirements of applicable law pertaining to the winding up of the affairs of the Company and the final distribution of its assets. Upon completion of the winding up, liquidation and distribution of the assets, the Company shall be deemed terminated.

14.6 Certificate of Cancellation. When all debts, liabilities and obligations have been paid and discharged or adequate provisions have been made therefor and all of the remaining property and assets have been distributed to the Unit Holders, the Manager shall file a certificate of cancellation as required by [Section 203] of the Act. Upon filing the certificate of cancellation, the existence of the Company shall cease, except as otherwise provided in the Act.

14.7 Return of Contribution Nonrecourse to Other Members. Except as provided by law or as expressly provided in this Agreement, upon dissolution each Unit Holder shall look solely to the assets of the Company for the return of its Capital Contribution. If the property remaining after the payment or discharge of liabilities of the Company is insufficient to return the contributions of Members, no Unit Holder shall have recourse against any other Unit Holder.

ARTICLE 15 -- INDEPENDENT ACTIVITIES OF MANAGERS AND MEMBERS

Any Manager and/or Member may engage in or possess an interest in other business ventures of every nature and description, independently or with others, including but not limited to, the ownership, financing, management, employment by, lending to or otherwise participating in businesses which are similar to the business of the Company, and neither the Company nor any of the Managers or Unit Holders shall have any right by virtue of this Agreement in and to such independent ventures or to the income or profits therefrom.

ARTICLE 16--MISCELLANEOUS PROVISIONS

16.1 Notices. Any notice, demand, or communication required or permitted under this Agreement shall be deemed to have been duly given if delivered personally to the party to whom directed or, if mailed by registered or certified mail, postage and charges prepaid, addressed a Member, the Company, and/or Manager at the respective addressed specified herein. Except as otherwise provided herein, any such notice shall be deemed to be given when personally delivered or if mailed, three business days after the date of mailing. A Member, the Company, and/or the Manager may change their addresses for the purposes of notices hereunder by giving notice to the others specifying such changed addressed in the manner specified in this section.

16.2 Governing Law. This Agreement shall be construed and enforced in accordance with the internal laws of the State of Washington.

16.3 Amendments. This Agreement may not be amended except by the unanimous written agreement of all of the Members and the Manager.

16.4 Construction. Whenever the singular number is used in this Agreement and when required by the context, the same shall include the plural and vice versa, and the masculine gender shall include the feminine and neuter genders and vice versa.

16.5 Headings. The headings in this Agreement are inserted for convenience only and shall not affect the interpretations of this Agreement.

16.6 Waivers. The failure of any Person to seek redress for violation of or to insist upon the strict performance of any covenant or condition of this Agreement shall not prevent a subsequent act, which would have originally constituted a violation, from having the effect of an original violation.

16.7 Rights and Remedies Cumulative. The rights and remedies provided by this Agreement are cumulative and the use of any one right or remedy shall not preclude or waive the right to use any or all other remedies. Said rights and remedies are given in addition to any other rights the parties may have by law, statute, ordinance or otherwise.

16.8 Severability. If any provision of this Agreement or the application thereof to any Person or circumstance shall be invalid, illegal or unenforceable to any extent, the remainder of this Agreement and the application thereof shall not be affected and shall be enforceable to the fullest extent permitted by law.

16.9 Heirs, Successors and Assigns. Each of the covenants, terms, provisions and agreements herein contained shall be binding upon and inure to the benefit of the parties hereto and, to the extent permitted by this Agreement, their respective heirs, legal representatives, successors and assigns.

16.10 Creditors. None of the provisions of this Agreement shall be for the benefit of or enforceable by any creditors of the Company.

16.11 Counterparts. This Agreement may be executed in counterparts, each of which shall be deemed an original and all of which shall constitute one and the same instrument.

16.12 Investment Representations. The Units have not been registered under the Securities Act of 1933, the Securities Act of Washington or any other state securities laws (collectively, the “Securities Acts”) because the Company is issuing the Units in reliance upon the exemptions from the registration requirements of the Securities Acts, and the Company is relying upon the fact that the Units are to be held by each Unit Holder for investment.

Accordingly, each Unit Holder hereby confirms the Units have been acquired for such Unit Holder’s own account, for investment and not with a view to the resale or distribution thereof and may not be offered or sold to anyone unless there is an effective registration or other qualification relating thereto under all applicable Securities Acts or unless such Unit Holder delivers to the Company an opinion of counsel, satisfactory to the Company, that such registration or other qualification is not required. The Unit Holders understand that the Company is under no obligation to register the Units or to assist any Unit Holder in complying with any exemption from registration under the Securities Acts.

Executed by the undersigned Members

Effective as of the date first above written:

[XYZ] _____

[ABC] _____

of amending as new information becomes available.

The scale of operations should begin on the order of a few head of beef (or the equivalent in sheep and hogs) per week or approximately 200 to 300 head per year. Financial projections based on modest initial volumes will dictate that

- ✚ Costs are controlled. The most significant costs in descending order are
 - ✓ Purchase of livestock from area producers,
 - ✓ Management and labor,
 - ✓ Infrastructure investment payments,
 - ✓ Repair and maintenance of equipment,
 - ✓ Utilities, and
 - ✓ Sales and marketing
- ✚ Revenues are optimized. The most significant revenues are
 - ✓ Direct sales of meat products
 - ✓ Value-added products
 - ✓ Custom work for other producers

Each of these line items will need further scrutiny. As the reader analyzes these, it will become apparent that some management strategies and investments are better than others among the options fleshed out.

Subsidies, premiums for local, grass fed, certified organic, heritage breed, family farm stories are great, but at the end of the day, did your customer enjoy the value? Value is defined as a function of price and quality. It has been said that a customer can get your products and services in three ways... Good, fast, and cheap. Pick any two!

Strongly consider offering products and services that offer greater margins than growing to “chase” total revenue through volume. I am reminded of the two men who were running down a hill with a bear chasing after them. The one man says to the other, “Boy, I sure hope we can out run that bear!” The other man says, “I sure hope I can out run you!” The volume game is a race to the bottom. Avoid it.

\$2 revenue from \$1X production cost = \$1 profit or 100%

\$3 revenue from \$2X production cost = \$1 profit but 50% or half the return -- and twice the investment and effort for the same \$1 profit.

I believe that this is the most common temptation of business startups; that if a little is good more is better. Not necessarily so, if overhead costs are kept to a minimum.

An eye for thriftiness The least expensive livestock are the ones you didn't purchase, the least expensive infrastructure is the building you didn't have to build or purchase, the least expensive energy is the energy you didn't spend on heating, ageing cooler vs. loin only cooler, or on transportation with your truck vs. customer pickup. The least expensive labor is the guy you didn't hire. (With typical margins, it takes about \$250K in gross revenues to justify new employee.) The least expensive water is the water you didn't have to treat -- Potable or Waste. The Least expensive waste stream is the waste you turned into another product or composted. The least expensive money is the money you didn't have to pay back. The least cost overhead is the OH you didn't have to support, OH and management don't generate or create salable product, producing employees do... The least expensive board meeting is the one you didn't have to attend (not always true but more often than not!) You get the idea.

OPM vs. YM (Other people's money vs. your money) What will your business venture require to get off the ground?" You may have fixed assets such as land, infrastructure, and equipment—hard assets which can be secured by lien from a financial lender or creditor and you may have operating needs to cover cash flow lags between accounts receivable and accounts payable, to purchase livestock, pay for utilities, and make payroll. The point is you will be a far greater steward of YM than OPM! Think long and hard about what is really financially required and "boot strap" as much as possible. It will be hard. You will thank me later!...

Keep good records and budgets. You can't manage what you can't measure on the other hand pro formas and budgets are never accurate and it takes at least twice as long or takes at least twice as much money as you estimate; life will get in the way, stuff will go wrong -- still the fundamentals of your business must be right.

"You cannot borrow your way out of trouble; you cannot grow your way out of trouble"

That said, if you must borrow OPM, here are some resources and insights;

- ✚ Don't borrow from "Aunt Martha". There is too much temptation to abuse a family relationship and "skid" on payment terms.
- ✚ The same goes for friends with money—unless you don't want to keep the friendship!
- ✚ Commercial bank loans may be available but will require a loan-to-value (debt-asset ratio) so extreme to cover the risk that they basically "own" your business through liens and titles until all installments have been paid. Do you want someone else to own your business?
- ✚ Venture capital is available but often at an interest rate, ownership/control, or other terms so stringent that you are basically a serf to them. Avoid these. They are most likely trying to maximize their own returns and they will protect their investments.
- ✚ "Slow Money" is an organization that has come to the forefront in the past decade,

offering venture/startup capital to the local food entrepreneur. It is a possible source but even they may require evidence of a positive track record—something impossible for a startup with no history. And if you want capital to grow your business later, ask yourself, “Have I retained earnings to finance growth myself?” If not, why are you seeking more capital? The fundamentals of your business are not set for growth at that time. Don’t go down this path.

- ✚ Government loans are available through various sources. Since the government is generally not as strict with their terms (tax payer and printed money is to them essentially OPM), they may be a lender of choice. Small business development loans, rural and economic development loans, producer value-added loans, and the like are available. A quick internet search will yield many of these sources of capital.
- ✚ Government grants are often the most attractive since they are essentially “gifts” from the government and don’t have to be paid back. There are several sources of grants available through various agencies. The National Sustainable Agricultural Coalition lists local food grants and new farmer training programs. The Western Sustainable Agriculture and Research Extension (SARE) also administers producer value-added grants and training off-sets. There are others, and again an internet search will yield many possible resources.

However, I must make the point that if it took “free money” to bring your meat processing business about, was it truly sustainable? I would argue not. Let’s agree to not be hypocrites...

And remember these points;

Free money is not really “free!”, it had to come from another profitable business in the form of taxes, from new government borrowing (now over \$18 Trillion in the red...), or from the printing of “new money” devaluing our dollar as more is circulated and contributing to inflation. It is indeed not free.

And too, the speed of government almost NEVER moves at the speed of business! How long do you want to wait for funding availability when other producers are also competing for what may be limited funds? You will have to make the call.

In the end, you want to do this. You make your own way. Others can assist. Let that be “In kind” so there are no lingering strings... That is sustainable.

Element #3 – Location Identification

Contractor will identify three potential site locations within the Palouse region for a USDA certified slaughter facility that would best serve area producers. Consultant shall take into consideration transportation, convenience for producers, and access to potable water, power and other utilities.

An opportunity exists to continue to work with the existing Custom Exempt Establishments -- or purchase them outright – since the respective owners have indicated the desire to retire in the coming year, or continue to work with the two existing USDA Establishments. Another possible alternative to these is to build a new facility and/or start a new processing business at a different location.

Two Custom Exempt Establishments are identified as possible facilities for use, purchase and/or upgrade to USDA:

Gregory's Custom Sausage located just a few miles east of Moscow at 3025 Highway 8 Moscow, ID 83843 Contact: Terry Gregory (208) 883-8870 was established in 1998. The owner indicated that it is for sale. The listed price is \$330,000.

The other Custom Exempt Establishment for consideration is

Potlatch Pack Inc. at 5497 Highway 95, Potlatch, ID 83855 Hours of Operation 8:00 am - 5:00 pm (208) 875-1361. The owner indicated that he was nearing retirement age and may want to sell his business.

The advantages of purchasing one of these establishments are that they come “pre-loaded” with a client base needing custom processing, that most of the infrastructure and equipment needed for a USDA processing facility is already in place, and that they are “grandfathered” establishments not requiring much in the way of additional regulatory permitting to operate. Both of these sites already have good access for producers, and are already equipped with potable water, power, and waste handling measures.

The disadvantages of upgrading these businesses into USDA establishments are that the floor plans and process flows may not be ideal for USDA requirements (for instance, walls need to separate processing rooms from office space or retail sales), they are not set up to handle livestock holding and slaughter so those aspects will need to be addressed, be it by adding on to the existing facility or using a Mobile Slaughter Unit which brings carcasses to the processing establishment, and they are older buildings with less efficient insulation and refrigeration meaning higher energy costs or capital outlays to upgrade. Still they should be given serious

consideration by the prospective new meat processor.

(In)Convenience may be a factor especially in the September through January period when custom exempt business is robust. However, forward planning and committing to a schedule with these establishments should insure any given producer “rail space”.

Another possible site for a Custom Exempt Plant with the intention of upgrading to USDA is Tourmaline Farms & Feed, owned and operated by Pam and Glenn Holloway, located on Watt Rd, Deary, ID 83823, (208) 877-1700 Hours of operation 10:00 am – 4:00 pm. Website: <http://www.tourmalinefarms.com/contact.html>





Tourmaline Farms has access to an unfinished poultry processing building on their ranch that could be modified and finished for either Custom Exempt processing and/or become a USDA inspected establishment. Advantages include that fact that the owners are present to oversee operations since they live nearby, the building is approximately 80% complete so to the county building permit process, and the ranch can benefit by supplying a significant volume of “in-house” work, not needing to rely as much on finding additional custom processing clients. Disadvantages are that the floor plan will need to be remodeled to accommodate livestock rather than poultry. Secondly, slaughter will not be ideal at this sight and will need to be mobile or at another site with carcasses transported for processing, adding to management and operating costs. (The consultant learned the basics of drafting during this contract period using the free 3D CAD program, Sketch Up and encourages others to familiarize themselves with this handy planning tool)

As for the current USDA plants, two will be mentioned;

4 Friendz Meats is located at 1342 Bridge St in Clarkston, WA 99403-2332 (509) 751-9886 Contact: Art King operates a multi-species USDA processing establishment that must get its USDA inspected carcasses from another establishment, usually from Vandal Brand Meats (VBM) on the University of Idaho campus. However, they may elect to transport livestock to (and USDA carcasses from) as far as Mc Cary Meats in Basin City, WA when VBM is not operating due to college breaks or when they are not taking additional livestock which can be problematic.

4 Friendz had considered setting up a Mobile Slaughter Unit as a way of guaranteeing USDA carcasses were available for their processing establishment and as a way to save transportation

and kill costs. They have since decided not to pursue USDA slaughter but to grow their business by adding more value, particularly as further processed meats such as cured and smoked sausages and by becoming a WSDA certified organic meat processor. The advantage of working with 4 Friendz Meats is that they are already established and understand and have implemented various Food Safety and Inspection Services (FSIS) requirements for Heat Treated, Partially and Fully Cooked, Shelf Stable, Ready-to-Eat, and Multiple-Ingredient meat products, among other HACCP Plans, a daunting list for a startup that they have already overcome. The disadvantage is that they are located in Clarkston (though they have plans of moving their operations across the border to Lewiston as soon as optimal) when many of the producers from the greater Moscow area who indicated that they desired further processed meats will have to make a 60 to 100 mile round trip twice—once to deliver raw product and the second to pick up finished product, not an economical proposition for most.



Vandal Brand Meats (VBM) on the University of Idaho College of Agriculture and Life Sciences campus in Moscow, ID. Contact: Ron Richards at rrichard@uidaho.edu 208-885-6727. Hours of Operation: Monday, Wednesday and Friday 12:30-5:30, Tuesday & Thursday 9:00-5:30, Saturdays 9:00-3:00. The advantage of VBM is that they can provide multi-species slaughter and processing locally. The caveat is that their first loyalty is to the university meats academic program and second to custom USDA for other area livestock producers. This creates no small consternation among those producers who depend on a weekly fresh USDA product to serve HRI customers in the greater Moscow area when scheduling of livestock for slaughter and processing may or may not be available. There are rumors that the meat science program and its facility are expanding but that remains to be seen.



Regardless of the site(s), the scale of operations for a USDA slaughter and processing facility should start out as small as possible and only grow as positive cash flow and operational proficiencies are achieved. Success of new establishments is most likely to become a reality when the margins between cost and price are optimized throughout the supply chain.

Element #4 – Regulatory Requirements

Consultant will research and identify any regulations that must be met to achieve and maintain USDA certification. Consultant will also research and identify regulatory issues between the federal government and/or USDA, Washington State, the state of Idaho, county governments and city governments.

Government Regulation Of the many barriers to entry, local, state, and federal regulatory hurdles can be daunting, especially if you do not know what to expect. This section should familiarize the prospective butcher about regulations and the agencies that may be involved in the permitting process. Keep in mind that starting out, simpler is better. Depending on mobile/modular or fixed, some regulations may or may not apply. Some will involve planning and infrastructure and others will involve operations.

The Packers and Stockyards Act The Packers and Stockyards Act is administered by the [Grain](#)

[Inspection, Packers and Stockyards Administration](#) (GIPSA) of the USDA. The Act's purpose at the time it was passed was to regulate [interstate and foreign commerce](#) in livestock, livestock products, dairy products, poultry, poultry products, and [eggs](#), and for other purposes." It prohibited packers from engaging in unfair and deceptive practices, giving undue preferences to persons or localities, apportioning supply among packers in restraint of commerce, manipulating prices, creating a [monopoly](#) or conspiring to aid in unlawful acts. The Act also made stockyards quasi-public utilities and required yard officers, agents and employees to register with the government. Stockyards were forbidden from dealing in the livestock they handled, and required them to maintain accurate weights and measures and pay shippers promptly. However, not all stockyards were under the jurisdiction of the Act. Only those with pen space larger than 20,000 square feet were regulated.

Today, the Act's scope has expanded to regulate the activity of livestock dealers, market agencies, live poultry dealers and swine contractors and all [auction](#) markets operating in commerce -- as well as meatpackers. It has been updated several times and now includes expanded jurisdiction over all livestock activities in commerce, including those away from stockyards.

In 1976, the Act was amended to increase financial protection to livestock producers and to expand USDA jurisdiction. This amendment:

- ✚ required meat packers with annual livestock purchases of over \$500,000 to be [bonded](#);
- ✚ provided trust protection for producers in the event of nonpayment for livestock by a meat packer;
- ✚ expanded USDA's jurisdiction over wholesale brokers, dealers, and distributors marketing meat in commerce and
- ✚ Authorized the Agency to assess civil penalties of not more than \$11,000 for packers, swine contractors, stockyard owners, market agencies, or dealers, and \$27,000 for live poultry dealers per violation.

In 1987, the Act was amended to provide trust protection to live poultry sellers and contract growers in the event of nonpayment for poultry by live poultry dealers and in 2000 it was amended to require the Packers and Stockyards administration to perform an annual assessment of cattle and hog industries.

The [Farm Security and Rural Investment Act of 2002](#) (2002 [Farm Bill](#)) amended the Act to regulate certain activities of swine contractors who enter into swine production contracts with contract growers. In general, the amendment made swine contractors subject to certain provisions of the Packers and Stockyards Act. The amendment prohibited certain activities of swine contractors, required swine contractors to maintain certain records, and held them

responsible for the acts of their employees, officers, and agents. The amendment also gave swine production contract growers the right to sue swine contractors in [federal district court](#). The amendment did not impose any new bonding or registration requirements, establish a trust for swine production contract growers, or establish any prompt payment requirements for swine contractors.

Among other regulations, GIPSA also administers certain dual-ownership relationships between custom feedlots and processing plants. The Act now requires the registration and bonding of custom feedlots. In general, the small packer will have to be concerned with the prompt payment provisions of the Act. The packer, marketing agency, or dealer must either deliver a check for the full purchase price to the seller or transfer funds to the seller's account before the close of business on the business day following transfer of possession. This requirement also applies to grade and weight purchases upon determination of the purchase price. Payment must be in the mail within the prescribed time period if the seller or seller's representative cannot be present to accept payment at point of transfer.*

**Source Wikipedia, the free encyclopedia*

Humane Slaughter Act The Humane Slaughter Act, or the Humane Methods of Livestock Slaughter Act, was passed into law in 1958 to decrease suffering of livestock during slaughter. The most notable of requirements is the need to have an animal completely sedated and insensible to pain. This is to minimize suffering where the animal feels nothing at all, losing a consciousness from which it will never awaken. Electric or captive bolt stun guns are commonly used on livestock.

To ensure that these guidelines are met, The USDA [Food Safety and Inspection Service](#) (FSIS) inspectors at slaughtering plants are responsible for overseeing compliance, and have the authority to stop slaughter lines and order plant employees to take corrective actions. Although more than 168 million egg laying chickens and around 9 billion broiler chickens are killed for food in the United States yearly, but the Humane Slaughter Act specifically mentions only cattle, calves, horses, mules, sheep, and swine.

Due to several reports of alleged non-compliance with these regulations and safety protocols, originating in the early 2000s, FSIS began to assign additional veterinarians to various district offices for monitoring of slaughter and handling procedures and to report any issues of non-compliance.

The [2002 farm bill](#), requires a compliance report to be submitted annually. In 2003, Congress allocated another \$5 million to FSIS and increased the number of compliance inspectors by 50. Language in the 2004 consolidated appropriations act directs FSIS to continue fulfilling that mandate, and the 2005 budget requested calls for another \$5 million to be allocated for

enforcement activities.

Despite these requirements being in place, reports have noted that alleged non-compliance still exists. Earlier concerns about humane treatment of non-ambulatory ([downer](#)) cattle at slaughter houses became irrelevant when FSIS issued regulations in January 2004 (69 FR 1892) prohibiting them from being slaughtered and inspected for use as human food.

7 U.S.C.A. § 1902. Humane methods

No method of slaughtering or handling in connection with slaughtering shall be deemed to comply with the public policy of the United States unless it is humane. Either of the following two methods of slaughtering and handling is hereby found to be humane:

(a) in the case of cattle, calves, horses, mules, sheep, swine, and other livestock, all animals are rendered insensible to pain by a single blow or gunshot or an electrical, chemical or other means that is rapid and effective, before being shackled, hoisted, thrown, cast, or cut; or

(b) by slaughtering in accordance with the ritual requirements of the Islamic and Jewish faith or any other religious faith that prescribes a method of slaughter whereby the animal suffers loss of consciousness by anemia of the brain caused by the simultaneous and instantaneous severance of the carotid arteries with a sharp instrument and handling in connection with such slaughtering.

According to the law, animals should be stunned into unconsciousness prior to their slaughter to ensure a death with less suffering than in killing methods used earlier. The most common methods are electrocution and CO2 stunning for swine and [captive bolt stunning](#) for cattle, sheep, and goats. Of these methods of electrocution, [electronarcosis](#) has been widely acclaimed as the safest, most humane and most reliable as well as the surest way to stun the animal and render it insensitive to pain. Organizations such as the Egyptian Fatwa Committee have mutually agreed to this method when keeping to the standards of Halal. Electronarcosis does not infringe on standards for Halal. Frequent on-site monitoring is necessary, as is the employment of skilled and well-trained personnel. An animal is considered properly stunned when there is no "righting reflex"; that is, the animal must not try to stand up and right itself. Only then can it be considered fully unconscious. It can only then proceed through the slaughter process.

For religious sects to proceed in the slaughtering of animals under specifically related rituals, they must fall within compliance of the previously mentioned criterion. No religion is exempt and all animals held for slaughter must be rendered insensible beforehand. Many religions find these regulations to fall within their own guidelines as appropriate. The two most common

religious slaughter methods in the United States are the method of [kosher](#), of the Jewish faith and the method of Halal, of the Muslim faith. While all require that the animal is killed through ritual slaughter, proponents of certain religious-based slaughter methods claim that the severing of the animal's [carotid arteries](#), jugular veins and vagus nerve renders the animal unconscious as effectively as most other methods, but this has yet to be proven.

Exclusionary policies The HMSLA is criticized by [animal rights](#) advocates and the [Humane Society of the United States](#) for only including cattle, pigs, and sheep but not [poultry](#), [fish](#), [rabbits](#) or other animals routinely slaughtered for food. After a 2004 [PETA](#) undercover investigation which publicized abuse of chickens by employees of a slaughterhouse that supplied chickens to a national fast food chain, PETA was joined by the Humane Society in calling for the Humane Slaughter Act to be expanded to include poultry*
**Source Wikipedia, the free encyclopedia*

Humane Handling of livestock prior to and at the time of slaughter is extremely important. Non-compliance can effectively shut down an establishment (possibly indefinitely) by removal from the approved list of plants eligible to sell meat products until corrective actions are taken.

The Humane Slaughter Act recognizes three methods for rendering an animal unconscious: mechanical, chemical, and electrical. To comply, any of the three methods must produce complete unconsciousness in the animal with a minimum of excitement and discomfort. A time span of not more than seven seconds is recommended between stunning and sticking for good bleeding. Longer time intervals may result in blood spattering (i.e., capillary rupture) in the muscle, causing unsightly blood spots in the meat. The author has witnessed this particularly in ham which can amount to a significant loss.

The most popular are mechanical stunning methods are penetration and concussion. The captive bolt pistol drives a bolt into the animal's forehead or into the back of its poll with great effectiveness and safety.

Carbon dioxide, the chemical method, is used mostly for hogs and poultry. Animals in compartments ride down an incline into gas chamber with an atmosphere of 65-75 % carbon dioxide (CO₂) which is heavier than air and can be contained in the chamber with minimal loss. The CO₂ method is usually more expensive than other methods to install and maintain and not the best method for the small slaughter facility.

For electrocution, the hog walks into a stunning box where it receives an electric shock. The duration of shock depends on the weight of the hog and the settings on the stunner. It is a popular method many hog slaughtering operations. An advantage over captive bolt is that several more seconds are available to stick and bleed before the hog thrashes about, causing

bruising and blood spots. The stunning box area near the head should be constructed of or lined with a non-conductive material. Additionally, though all killing activities carry inherent risks, safe operation of the electric stunner is necessary for employee safety.

However, the Humane Slaughter Act is not intended for farmers or other people who slaughter their own livestock. A 22-caliber rifle (using solid and not hollow point bullets which may break into smaller fragments), is very effective and humane for home or Custom Exempt stunning. Additionally, keep in mind that projectile bits may be imbedded in trim destined for the grinder which may damage it.

Federal Meat Inspection Act (FMIA) and USDA Inspection The purpose of the **Federal Meat Inspection Act** of 1906 (FMIA) is to prevent adulterated or misbranded meat and meat products from being sold as food and to ensure that meat and meat products are slaughtered and processed under sanitary conditions. These requirements also apply to imported meat products, which must be inspected under equivalent foreign standards. [USDA](#) inspection of poultry was added by the [Poultry Products Inspection Act of 1957](#). The [Agricultural Marketing Act](#) authorizes the USDA to offer voluntary, fee-for-service inspection services for venison and buffalo (also referred to as non-amenable species).

Provisions of the FMIA mandated USDA inspection of meat processing plants that conducted business across state lines. The [Pure Food and Drug Act](#), also enacted in 1906, also gave the government broad jurisdiction over food in [interstate commerce](#).

The four primary requirements of the Meat Inspection Act are:

- ✚ Mandatory inspection of [livestock](#) before slaughter (cattle, [sheep](#), [goats](#), [equines](#), and [swine](#));
- ✚ Mandatory [postmortem](#) inspection of every [carcass](#);
- ✚ Sanitary standards established for [slaughterhouses](#) and [meat processing](#) plants; and
- ✚ Authorized USDA ongoing monitoring and inspection of slaughter and processing operations.*

**Source Wikipedia, the free encyclopedia*

The Federal Meat Inspection Act was superseded in 1967 by the Wholesome Meat Act whose purpose was to ensure a clean and wholesome meat supply whereby all meat and meat products to be sold must be inspected before and after slaughter and be passed as wholesome by an authorized agent of the appropriate regulatory body responsible for meat inspection.

In most states, inspection is handled by the Federal Meat and Poultry Inspection Program of the USDA Food Safety and Inspection Service (FSIS). However, states that have their own meat

inspection program—or are considering their own—are still required to comply with regulations as stringent as those stipulated in the federal program.

Federal inspection normally is provided at no cost to the processor but will be charged for service when the slaughter schedule requires the inspector to be present for longer than eight hours per shift, on federal holidays, or on weekends.

The following table lists the 2015 Rates per hour, per employee, by type of service:

2015 Rate (estimates rounded to reflect billable quarters)	
Service	
Basetime.....	\$55.60
Overtime.....	70.28
Holiday.....	85.00
Laboratory.....	70.52

DEPARTMENT OF AGRICULTURE
*Food Safety and Inspection Service [Docket Number FSIS-2014-0038] RIN 0583-AD40

A meat inspector does not necessarily need much but a safe, secure, and moderately comfortable place to do paperwork and a secure cabinet for keeping carcass stamps and records. In a small processing operation, a lockable file cabinet and a small desk and chair are all that is needed. You do not have to provide a private rest room with a shower for smaller USDA operations as was the case in the past, though a port-a-potty or other bathroom facilities for the employees as well as the inspector are required.

If you are slaughtering under inspection, you will be required to install an isolation cage in the carcass cooler because the inspector may need to delay the decision to pass or condemn a suspect carcass until test results are available. These days in a small slaughter establishment, a rail lock isolating the questionable carcass from accidental processing is all that is required.

If custom and commercial slaughter is performed in the same establishment, carcasses from Custom Exempt slaughter must be kept apart from those for resale. Similar separation and labeling requirements are necessary for inspected and non-inspected meat and packages held in the same cooler or freezer. Custom Exempt must be stamped or labeled "NOT FOR SALE."

If USDA product sold is returned for reasons other than deterioration or spoilage, it must be placed in an area designated as "Returned Products for Re-inspection" Products under re-inspection, if passed, can then be reworked or further processed.

All carcasses, parts of carcasses, meat food products, and processed meats must carry the USDA stamp with the establishment's number in order to be sold. This legend identifies the plant in which slaughter or processing occurred. Packaged meat that is sold or intended for sale must leave the plant with a plainly displayed, approved package label that identifies the product, your plant, and the net weight. If it is a processed product, the ingredients must be listed in descending order of prominence.

Carcasses, meat parts, and processed meats that do not pass inspection are immediately stamped or labeled "CONDEMNED" and must be promptly disposed of. Drums labeled "USDA CONDEMNED" must be available to hold these products until pickup by a rendering service or other approved disposal.

Condemned animals and meat products usually are a loss to the processor unless some alternative agreement or policy has been made with the livestock seller. Live animal receiving policies should eliminate most, but not all, risk of loss since one cannot always determine if an animal is diseased until slaughtered and inspected.

Many USDA Compliance Guides and Directives have since been adopted, some of which will be discussed in the next section.

USDA Food Safety and Inspection Service (FSIS)

Just as a reference, you may want to familiarize yourself with FSIS's compliance guides on E.coli O157:H7. These guides are what USDA refers to when reviewing your HACCP plans and are often what they expect plants to have as a minimum.

Here is a link to these documents: <http://www.fsis.usda.gov/wps/portal/fsis/topics/regulatory-compliance/compliance-guides-index#Ecoli>

A guidance document that would give you an idea of how often to sample is at http://www.fsis.usda.gov/wps/wcm/connect/9f40a351-16c9-4953-9d4c-c2ba51913fa8/Draft_Guidance_SVSP_sampling_for_ecoli.pdf?MOD=AJPERES

From what producers have mentioned about volume, you would be looking at a minimum of quarterly sampling of ground beef for E.coli O157:H7. If your supplying establishments are willing to share ongoing results of their testing, you can use this information to help support that E.coli O157:H7 is not present on incoming product.

USDA would ideally like to see that the product is tested once during its distribution, so having a Certificate of Analysis (COA) from the supplier or conducting your own testing at some point would be helpful and may be required. You may want to contact your district office and see

what they would expect, as this can vary from plant to plant and district to district.

Inspection & Grading of Meat and Poultry

The inspection and grading of meat and poultry are two separate programs within the U.S. Department of Agriculture (USDA). Inspection for wholesomeness is **mandatory** and is paid for with public funds. Grading for quality is **voluntary**, and the service is requested and paid for by meat and poultry producers/processors. The Basetime fee for grading services paid by the processor is currently \$55.60 per hour for normal working days (Monday through Friday) and higher rates if the federal grader is requested to work on weekends or national holidays.

Mandatory Federal Inspection American consumers can be confident that the Food Safety and Inspection Service (FSIS), the public health agency in the USDA, ensures that meat and poultry products are safe, wholesome, and correctly labeled and packaged.

Under the [Federal Meat Inspection Act](#) and the [Poultry Products Inspection Act](#) , FSIS inspects all raw meat and poultry sold in interstate and foreign commerce, including imported products. The Agency monitors meat and poultry products after they leave federally inspected plants.

In addition, FSIS monitors [State inspection programs](#) , which inspect meat and poultry products sold only within the State in which they were produced. The 1967 Wholesome Meat Act and the 1968 Wholesome Poultry Products Act require State inspection programs to be "at least equal to" the Federal inspection program. In states that choose to end their inspection program or cannot maintain this standard, FSIS must assume responsibility for inspection within that State.

FSIS does allow under a final rule State-inspected establishments with 25 or fewer employees to ship meat and poultry products in interstate commerce because of a new voluntary cooperative agreement program. Meat and poultry products produced under the program that have been inspected and passed by designated State personnel will bear an official Federal mark of inspection and will be permitted to be distributed in interstate commerce. FSIS will provide oversight and enforcement of the program.

In these efforts to protect the safety and integrity of meat and poultry products, FSIS works with many other agencies, including other agencies within the USDA, State inspection programs, the [Food and Drug Administration](#) of the U.S. Department of Health and Human Services, and the [Environmental Protection Agency](#).

Since the Federal inspection program began at the turn of the twentieth century, the meat and

poultry industries have grown and changed significantly. In the early 1900's, most meat came from local slaughter plants and was used locally. Further processing was limited to simple products such as sausages. Today, however, a wide variety of meat and poultry products are on the market. Animals are slaughtered and meat is processed most often in sophisticated, high-volume plants. The meat is often shipped great distances to reach consumers.

As the industry changed, FSIS began changing inspection. In earlier days, the primary concern of the inspectors was animal diseases, and they relied almost exclusively on visual inspection of animals, products, and plant operations. However, refinements in animal production reduced disease and created a more homogeneous animal population. Thus, the concerns of today's inspectors are broader and include unseen hazards such as microbiological and chemical contamination.

The requirements in the "[Pathogen Reduction; Hazard Analysis and Critical Control Point \(HACCP\) Systems](#)" final rule are designed to minimize the likelihood of harmful bacteria contaminating raw meat and poultry products. However, some bacteria could be present and might become a problem if meat and poultry are not handled safely. To assist food handlers, the **USDA requires that safe handling instructions** be put on all packages of raw and not fully cooked meat and poultry.



FSIS's HACCP Systems mandate measures to target and reduce the presence of pathogenic organisms in meat and poultry products. These measures include FSIS testing to verify pathogen reduction performance standards are being met; plant microbial testing to verify process control for fecal contamination; written sanitation standard operating procedures

(SOPs); and a mandatory HACCP system in all meat and poultry plants. The implementation of HACCP by FSIS helps ensure the safety of the meat, poultry, and egg products supply. To learn more, visit [FSIS's Web page on HACCP](#).

Every establishment is required to reassess the adequacy of its HACCP plan at least annually and whenever any changes occur that could affect its hazard analysis or alter its HACCP plan. The establishment may reassess its HACCP plan, or plans, any time during the calendar year to meet the annual reassessment requirement.

Meat that has been federally inspected and passed for wholesomeness is stamped with a round purple mark. The dye used to stamp the grade and inspection marks onto a meat carcass is made from a food-grade vegetable dye and is not harmful. (The exact formula is proprietary/owned by the maker of the dye.) The mark is put on carcasses and major cuts. After trimming, the mark might not appear on retail cuts such as roasts and steaks. However, meat that is packaged in an inspected facility will have an inspection mark which identifies the plant on the label.



Inspection mark on raw meat

Inspection mark on raw poultry

Inspection mark on processed products

Voluntary Federal inspection for animals not covered under mandatory inspection (i.e., buffalo, rabbit, reindeer, elk, deer, antelope) is handled under the Agricultural Marketing Act. This Act gives the Secretary of Agriculture the authority to take whatever steps are necessary to make the product marketable. The FSIS inspector must have knowledge about that particular species and the carcass must fit available equipment in the plant. Businesses that request voluntary inspection must pay an hourly fee for the service whereas mandatory inspection is funded by tax dollars.

For voluntary inspection, the mark of inspection (as referenced in 9 CFR 352.7-Marking

Inspected Products) illustrates the mark to be the shape of a triangle for exotic species.



For application to exotic animal carcasses, primal parts and cuts therefrom, exotic animal livers, exotic animal tongues, and exotic animal hearts.

The establishment number of the official exotic animal establishment where the product is prepared shall be used in lieu thereof.



For the inspection of rabbits, as per 9 CFR 354.63 the mark of inspection is the same as the inspection mark for raw poultry.

Grading After meat and poultry are inspected for wholesomeness, producers and processors may request that they have products graded for quality by a licensed Federal grader. The [USDA's Agricultural Marketing Service](http://www.ams.usda.gov) (<http://www.ams.usda.gov>) is the agency responsible for grading meat and poultry. Those who request grading must pay for the service. Grading for quality means the evaluation of traits related to tenderness, juiciness, and flavor of meat; and, for poultry, a normal shape that is fully fleshed and meaty and free of defects.

USDA grades are based on nationally uniform Federal standards of quality. No matter where or when a consumer purchases graded meat or poultry, it must have met the same grade criteria. The grade is stamped on the carcass or side of beef and is usually not visible on retail cuts. However, retail packages of beef, as well as poultry, will show the U.S. grade mark if they have been officially graded.

The grade symbol and wording are no longer copyrighted; however, according to the Truth in Labeling Law, it is illegal to mislead or misrepresent the shield or wording.

USDA Grades for Meat and Poultry

Beef Beef is graded as whole carcasses in two ways:

- ✦ **Quality grades** - for tenderness, juiciness, and flavor; and
- ✦ **Yield grades** - for the amount of usable lean meat on the carcass. There are eight quality grades for beef. Quality grades are based on the amount of marbling (flecks of fat within the lean), color, and maturity.

Quality Grades:

- ✦ **Prime grade** is produced from young, well-fed beef cattle. It has abundant marbling and is generally sold in restaurants and hotels. Prime roasts and steaks are excellent for dry-heat cooking (broiling, roasting, or grilling).
- ✦ **Choice grade** is high quality, but has less marbling than Prime. Choice roasts and steaks from the loin and rib will be very tender, juicy, and flavorful and are, like Prime, suited to dry-heat cooking. Many of the less tender cuts, such as those from the rump, round, and blade chuck, can also be cooked with dry heat if not overcooked. Such cuts will be most tender if "braised" — roasted, or simmered with a small amount of liquid in a tightly covered pan.
- ✦ **Select grade** is very uniform in quality and normally leaner than the higher grades. It is fairly tender, but, because it has less marbling, it may lack some of the juiciness and flavor of the higher grades. Only the tender cuts (loin, rib, sirloin) should be cooked with dry heat. Other cuts should be marinated before cooking or braised to obtain maximum tenderness and flavor.
- ✦ **Standard and Commercial grades** are frequently sold as ungraded or as "store brand" meat.
- ✦ **Utility, Cutter, and Canner grades** are seldom, if ever, sold at retail but are used instead to make ground beef and processed products.

Note: Grades such as Prime, Choice and Select are not acceptable terms for raw cuts of pork or poultry.

Yield grades range from "1" to "5" and indicate the amount of usable meat from a carcass. Yield grade 1 is the highest grade and denotes the greatest ratio of lean to fat; yield grade 5 is the lowest yield ratio. Though yield grades are not something consumers normally see, they are most useful when purchasing a side or carcass of beef for the freezer.

Veal/Calf There are five grades for **Veal/Calf**: **prime, choice, good, standard,** and **utility**.

- ✚ **Prime** and **choice** grades are juicier and more flavorful than the lower grades. Because of the young age of the animals, the meat will be a light grayish-pink to light pink, fairly firm, and velvety. The bones are small, soft, and quite red. Cuts such as chops can be cooked by the dry-heat methods of roasting, grilling or broiling.

Lamb There are five grades for lamb. Normally only two grades are found at the retail level—**prime** and **choice**. Lower grades of lamb and mutton (meat from older sheep) — **good, utility,** and **cull** — are seldom marked with the grade. Lamb is produced from animals less than a year old. Since the quality of lamb varies according to the age of the animal, it is advisable to buy lamb that has been USDA graded.

- ✚ **Prime grade** is very high in tenderness, juiciness, and flavor. Its marbling enhances both flavor and juiciness.
- ✚ **Choice grade** has slightly less marbling than prime, but still is of very high quality. Most cuts of prime and choice grade lamb (chops, roasts, shoulder cuts, and leg) are tender and can be cooked by the dry-heat methods (broiling, roasting, or grilling). The less tender cuts — breast, riblets, neck, and shank — can be braised to make them tenderer.

Pork Pork is not graded with USDA quality grades as it is generally produced from young animals that have been bred and fed to produce more uniformly tender meat. Appearance is an important guide in buying fresh pork. Look for cuts with a relatively small amount of fat over the outside and with meat that is firm and grayish pink in color. For best flavor and tenderness, meat should have a small amount of marbling.

Pork's consistency makes it suitable for a variety of cooking styles. Chops can be prepared by pan broiling, grilling, baking, braising, or sautéing. Ribs can be braised, roasted, or grilled. Slow cooking yields the most tender and flavorful results. Tenderloins are considered to be the most tender and tasty cut of pork.

Poultry The USDA grades for poultry are **A, B,** and **C**.

- ✚ **Grade A** is the highest quality and the only grade that is likely to be seen at the retail level. This grade indicates that the poultry products are virtually free from defects such as bruises, discolorations, and feathers. Bone-in products have no broken bones. For whole birds and parts with the skin on, there are no tears in the skin or exposed flesh that could dry out during cooking, and a good covering of fat under the skin. Also, whole

birds and parts will be fully fleshed and meaty.

The U.S. grade shield for poultry may be found on the following chilled or frozen ready-to-cook poultry products: whole carcasses and parts, as well as roasts, tenderloins, and other boneless and/or skinless poultry products that are being marketed. There are no grade standards for necks, wing tips, tails, giblets, or ground poultry.

- ✚ **Grades B and C** poultry are usually used in further-processed products where the poultry meat is cut up, chopped, or ground. If sold at retail, they are usually not grade identified.

Food Safe Customers By following four simple steps, you can help keep your customers safe from food poisoning.

- ✚ **CLEAN** Wash hands and surfaces often.
- ✚ **SEPARATE** Separate raw meats from other foods.
- ✚ **COOK** Cook food to the right temperature.
- ✚ **CHILL** Refrigerate food promptly.

For more information about meat and poultry grading, go to USDA's Agricultural Marketing Service (AMS) Web site at www.ams.usda.gov/

**Source USDA FSIS Food Safety Education*

It is most likely that small USDA establishments cannot afford the expense of a licensed federal grader. But the lack of a graded product can be costly since all meat and meat products for sale to federal, state, county, or municipal agencies and institutions must be federally graded or they cannot be your customer. However, depending on the client, specifications, and volumes, it may be possible to informally institute some system of self-grading between interested parties who don't require federal grading but still desire to standardize product offerings and associated price points.

Regulatory Compliance Resources

In addition to USDA Inspection, several other government agencies will be engaged in planning and operating a meat processing business. Involvement of these agencies will depend on the size and scope of the proposed operation, including the type of sales. Good planning and a thorough understanding of the responsibilities in overall establishment operation will eliminate many potential problems.

The prospective meat processor will become familiar with many regulations long before the first animal is slaughtered or steak cut. Written approval from various authorities is needed

before construction may begin. Such approval evidences suitability of the site for construction or operation if mobile, and must be obtained from the local zoning authority, the U.S. Environmental Protection Agency, and the appropriate Department of Labor and Industries. Builders must meet special regulations applying to meat processing as well as all general specifications and ordinances. The following discussion is a general overview of the various government regulatory agencies; it is neither all inclusive nor final.

Organizations and links to assist you It is beyond the scope of this document to give the reader a detailed step by step process to obtain a Grant of Inspection for your establishment. In fact, there are many great resources on line that can assist you in this effort. Among them are:

The Niche Meat Processing Assistance Network or (NMPAN)

<http://www.nichemeatprocessing.org/>

The USDA Small and very small plant outreach

<http://www.fsis.usda.gov/wps/portal/fsis/topics/regulatory-compliance/haccp/small-and-very-small-plant-outreach>

The American Association of Meat Processors or (AAMP) <http://www.aamp.com/>

United States Department of Agriculture (USDA) Food Safety and Inspection Service (FSIS)

Federal Grant of Inspection Guide

These guidelines are intended to aid those who are contemplating applying for a Federal Grant of Inspection. Files are provided in PDF format

[Letter Regarding Applying for a Grant of Inspection](#)

[Sample Letter from the District Office](#)

[An Introduction from the District Manager](#)

[Introduction](#)

Steps Required for Obtaining Federal Meat and Poultry Inspection

- ✦ [File an Application for Inspection \(Updated Aug 28, 2012\)](#)
[Form 5200-2 - Application for Federal Inspection \(Meat, Poultry, Egg Product, and Import Inspection\) \(Fillable PDF\)](#)
- ✦ [Facilities Must Meet Regulatory Performance Standards](#)
- ✦ [Establishment Sanitation \(PDF Only\)](#)
- ✦ [Hazard Analysis and Critical Control Points \(HACCP\)](#)

Additional Resources

- ✦ [Privacy Act Notice](#)
- ✦ [Additional FSIS Contacts for Assistance](#)
- ✦ [Sample Letters for Approved Water and Sewage](#)
- ✦ [Sample Sanitation Standard Operating Procedure \(SSOP\)](#)

Application for Label Approval

- ✦ [FSIS Form 7234.1 Application for Label Approval and instructions \(Fillable PDF Only\)](#)
[Label Application Guidance](#)
[Label Submission and Approval System \(LSAS\)](#)
- ✦ [FSIS Directive 5220.1 \(PDF Only\)](#)
- ✦ [Sample FSIS Form 5200.2, Application for Federal Inspection](#)
- ✦ [Food Safety Resources for Small and Very Small Plant Outreach](#)
- ✦ [Acts and Authorizing Statutes](#)
- ✦ [Title 9 of the Code of Federal Regulations \(CFR\) Parts 300-592](#)

Small and Very Small Plant Outreach

Small Plant Help Desk Need immediate assistance? Contact the Small Plant Help Desk!

Phone: (877) FSIS-HELP (877-374-7435) **Email:** InfoSource@fsis.usda.gov

Regulatory Compliance

Use this as your first resource in maintaining compliance with FSIS policies.

Review [compliance](#), [labeling](#), and [new technology](#) guides and resources, as well as [HIKE](#) and [IKE](#) information.

Common Questions

AskFSIS

Find answers to questions on inspection-related policies, programs, systems, and procedures.

Search the knowledge base, submit a new question, or sign up to be notified when answers are updated.

Education and Training Materials

[Developing a Recall Plan: Guidelines for Meeting 9 CFR §418](#) | PDF (Apr 30, 2013)

Preparing Small and Very Small Meat and Poultry Establishments for the Future of HACCP: A Cooperative Approach (PDF Only)

A white paper addressing the training, information and technical assistance needs of small and very small processors with recommendations for regulators, academia and the industry.

The Counter-Top Food Safety Training Program

Bi-lingual lesson plans, in English and Spanish, designed for instructing Spanish-speaking line employees in food safety basics and suggested Good Manufacturing Practices.

[Flooding: A Checklist for Small and Very Small Meat, Poultry and Egg Processing Plants](#) | PDF (Sep 22, 2008) FSIS provides a list of steps to take in the event of flooding.

Avian Influenza Training

Provides the in-plant inspection team with the information and resources needed to recognize clinical signs and gross lesions that could be suggestive of Avian Influenza.

Meat, Poultry and Processed Egg Products Inspection Videos

A collection of streaming video and audio resources for meat, poultry and processed egg product inspection.

Regulatory Education Web Seminars

View the various regulatory education video sessions provided to promote a uniform understanding of the regulations.

Small Plant News

Small Plant News is a monthly publication to inform and educate small and very small plant owners and operators on FSIS news. It fosters plants' ability to produce the safest food by providing essential tips that encourage highest sanitation standards, paperwork compliance and cost-saving measures.

Workshops for Small Plants

Download materials from past workshops for small and very small plants. You can also watch our [Upcoming Meetings page](#) for news of upcoming workshops.

Executive Orders, Small Business Protection Laws & Policies on Regulatory Decisions

Access the summary of laws and executive orders governing the rulemaking process and small

business protection laws and resources to help in understanding FSIS' non-retaliation policy, FSIS [policies on regulatory decisions](#), Agency contact list, and how to use the Small Business Administration's Office of the National Ombudsman.

[FSIS Strategic Implementation Plan for Strengthening Small and Very Small Plant Outreach – 2006-2007](#) (PDF Only) The FSIS Administrator charged an ad hoc task force to develop the Agency's response to the needs of small and very small plant owners and operators.

HACCP Directories

[Meat, Poultry and Egg Product Inspection Directory](#)

Access the listing of establishments, regulated by USDA's Food Safety and Inspection Service, that produce meat, poultry, and/or egg products

[Rural Development State Contact Information](#)

Access detailed information about Rural Development programs and applications for financial assistance.

[State HACCP Contacts & Coordinators](#)

HACCP Contacts and Coordinators provide technical advice, assistance, resources and conduct activities to support HACCP implementation in small and very small plants.

HACCP Resources

[Antimicrobial Spray Treatments for Red Meat Carcasses Processed in Very Small Meat Establishments](#)

Pennsylvania State University has developed a DVD and an intervention booklet for small and very small meat and poultry plants with funding from a USDA-CSREES grant. This information describes an effective antimicrobial intervention for red meat carcasses processed in very small meat plants.

[Developing a Food Defense Plan for Meat and Poultry Slaughter and Processing Plants](#) (Jan 2007; PDF Only) Developed in consultation with very small, small, and large meat and poultry processors, this guide provides an easy, practical, and achievable three-step method for creating a food defense plan. By completing pages 13 -16 of this guide, you will have a plan specific for your operation.

[Federal Grant of Inspection Guide](#)

Provides requirements for Hazard Analysis and Critical Control Point (HACCP) and Sanitation

Standard Operating Procedures (SSOPs) and outlines the step-by-step process applicants can follow to obtain a grant of inspection.

[PowerPoint Presentation: Applying for a Federal Grant of Inspection](#) | [PDF](#)

[Food Safety Information for Small and Very Small Plants - Brochure*](#) | [PDF](#)

FSIS offers a variety of resources to assist small and very small plants with their HACCP programs. (Please use the PDF version for orders by surface mail or fax.)

** Includes online order form.*

Resources and Information

Learn about training programs and resources developed to support the educational information needs of industry and foodservice professionals.

Office Locations and Phone Numbers

This page lists points of contact for FSIS' field offices.

See [Key Agency Contacts](#) for headquarters addresses. [OFO District Offices](#)

OFFICE OF FIELD OPERATIONS (OFO) District Offices



DENVER, CO (District 15)

States: Alaska, American Samoa, Colorado, Guam, Hawaii, Idaho, Northern Mariana Islands, Montana, Nebraska, Oregon, Utah, Washington, Wyoming

Ms. Anna Gallegos, DM (303) 236-9793
Dr. Maria Esteras, DDM (303) 236-9804
Dr. Robert Reeder, DDM (303) 236-9788
Dr. Scott Wagner, DDM (303) 236-9803
Denver.Districtmanagement@fsis.usda.gov

1 Denver Federal Center
Bldg. 45, Door S3
P.O. Box 25387
Denver, CO 80225
Phone: (303) 236-9800
Fax: (303) 236-9794
24-Hour Emergency: (303) 236-9800
Admin. Functions: Mr. Gerry Priest (303) 236-9787

New Construction Establishments Drawings and specifications of the building and equipment must be submitted to the appropriate district office of USDA FSIS. For most western United States, this office is located in Denver, CO. If Standard Operating Procedures (SOP's), Sanitation Standard Operating Procedures (SSOP's), Hazard Analysis and Critical Control Points Plan

(HACCP) as well as other forms and prerequisite programs are in order ([PowerPoint Presentation: Applying for a Federal Grant of Inspection | PDF](#)) USDA will approve a Grant of Inspection. It is strongly recommended, though not required, to inform the USDA District Circuit Supervisor of your intentions and build a proactive, collaborative relationship from the outset.

If new construction “brick and mortar” or modular rather than mobile infrastructure, your state Department of Labor and Industries and the local building department will insist that the plans be finalized by a registered architect and approved by the appropriate agencies. Mobile slaughter and processing establishments must meet L & I requirements under “Factory Assembled Structures, Commercial Coach” guidelines and also comply with the state Department of Transportation (DOT).

This rather elaborate preconstruction inspection actually is for the new operator's protection. A good deal of capital is being invested, and it makes sense to begin building with the expressed approval of all regulatory agencies involved. USDA inspectors will make sure that your plant meets all requirements for federal meat processing. The Department of Labor and Industries endorsement certifies that the new plant will be a safe and comfortable building in which to work.

Publications from the federal government give guidelines for building and equipment specifications. An internet search will yield many floor plan examples for small meat processing establishments. Manufacturers can provide detailed specs on their equipment. Ebay <http://www.ebay.com/> and Craigslist <https://www.craigslist.org/about/sites> are among many sites to look for new and used equipment.

General meat processing construction materials and requirements specified here are for preliminary planning only. The prospective butcher should obtain the official documents (permits, maps, etc) from the regulating agencies that reflect all current changes and pertinent information.

Construction materials Construction materials for walls, floors, and ceilings must be easy to clean and resistant to wear, rotting, and corrosion. Walls and ceilings should be white for better light reflection. Avoid paint on most surfaces if possible. Paint ages, flakes, and peels and will have to be removed and replaced. Surface coverings will depend on the material, location cost and durability.

Coves Water which provides the moisture for pathogen growth in your processing environment is hard to remove from inside corners. Coves formed using appropriate materials should have a radius sufficient for proper sanitation at the junction of the floor and wall in all wet or refrigerated rooms.

Windows To avoid glass shards from broken glass, safety glass or Lexan[®] is required for windows wherever meats are processed, handled, or stored. Windows should be three feet or more from the floor to avoid being bumped into by people or equipment. Window sills should slope to allow drainage and promote sanitation.

Water The water supply must comply with USDA standards. Plant management is responsible for obtaining an official laboratory test from a local or state health agency, certifying that the water meets minimum potability requirements. Intervals for sampling are:

- ✚ Public water supply, annually;
- ✚ Private water supply, semiannually.

A report of the water test must be kept on file in the plant.

Drains Drain pipes must be free-flowing and installed to the proper slope (1/4 inch to the linear foot or 45 degrees to vertical) for liquids to carry solids along. They must be properly located with adequate capacity to handle peak demand when washing and cleaning. As a general rule, one 6 inch floor drain is needed for every 200 square feet of floor space in slaughter areas and one drain for every 500 square feet in processing rooms and other wet areas.

Doors and openings Doors should be constructed of rust resistant material such as galvanized steel or FRP with tight solid seams. All door frames should be metal clad and have smooth seams. Doors must be wide enough depending on the need so that employees, product carts, dollies, or pallet jacks, should not bump into door jams.

Lighting A minimum of fifty foot candles of light are required at areas where the inspector and/or employees examine products for cleanliness (i.e. at the Zero Tolerance carcass inspection area for fecal material, ingesta, or milk). Twenty foot candles are required in processing rooms. All light fixtures are to be protected with an outer shield to prevent glass from falling on carcasses or products.

Refrigeration Processing rooms operating a full 8-hour shift before cleaning must be refrigerated to a temperature below 50°F. If facilities where meat is being processed have no refrigeration, then arrangements must be made to clean and sanitize equipment in use and contacted by meat every four hours. Slaughtering areas do not have to be refrigerated but worker productivity can improve with an air-conditioned kill floor in August, for instance. A lot of humid heat is dissipated from the eviscerating process.

Equipment All equipment should be constructed of stainless steel, galvanized steel, or aluminum. Cast iron is OK if painted and maintained for cleanliness. Hardwood or plastic

cutting boards that must be periodically planed smooth from cuts and checks are typical on metal-framed boning tables. You must be able to remove the cutting boards for cleaning. Stationary equipment should be installed away from walls and ceilings at a distance sufficient to provide sufficient access for cleaning, maintenance, and inspection.

Rest rooms If provided, these room(s) must be separate from adjoining dressing rooms by tight, full-height walls or partitions. Toilet rooms must not be entered directly from a work room.

Inspector's needs If your plant is small and operating under inspection, separate office space for the inspector usually is not necessary. But the inspector must have a place to keep records, secure USDA stamps, and fill out reports.

Rails A rail should be 3/8 inch by 2 ½ inch high and made from quality cold rolled steel which is harder and less prone to rust than hot rolled (which may still be used albeit with more maintenance). Do not paint rails since paint flakes off onto carcasses. Coat rails with a light food grade white oil to prevent rusting. Carcass weights for computing load per linear foot for rails, including a safety factor, are 1,700 pounds for large bulls, 900 pounds for average weight cattle, and 450 pounds for lightweight calves and hogs. Usually rails are supported every 4 feet on center, but with today's cattle being almost 50% larger than 40 years ago, rail hangers on 32" or 24" may be required. Be sure that you have planned for a trolley cleaning and storage rack area.

Occupational Safety and Health Administration Congress established the Occupational Safety and Health Administration (OSHA) "to insure, so far as possible, every working man and woman in the nation safe and healthful working conditions and to preserve our human resources."

Overall, the administration of OSHA is vested in three federal agencies:

- ✚ The Department of Labor, responsible for establishing safety standards, inspecting work places, and gathering accident data;
- ✚ The Department of Health and Human Services, responsible for establishing criteria for the development of new standards, education and training, and annual publication of a list of toxic substances; and
- ✚ The Occupational Safety and Health Review Commission, responsible for hearing cases where citations, penalties, or abatement periods are appealed.

It should be emphasized that all employers covered by OSHA are required to report all work related deaths and multiple hospitalizations to the agency. Generally, OSHA inspectors are looking for safety hazards, particularly unsafe equipment, in a facility. Most equipment

manufacturers today design new equipment with OSHA standards in mind. However, the ultimate responsibility for a safe work environment lies with management and ownership. Plant managers must establish and enforce operating procedures that comply with OSHA requirements. Murphy's Law will prevail sooner or later. It is best to be proactive and foster a safe work environment.

The Department of Labor and Industries Your State Department of Labor and Industries oversees a range of administrative duties, including the Disability Compensation Division, Employment Security Appeals, Labor and Industrial Relations Appeals Board, Occupational Safety and Health, Unemployment Insurance, and the Wage Standards Division, among others.

In general, the Department of Labor and Industries (L & I) provides for safety and protection of the health and morale of employees by prescribing standards for work areas and the equipment, apparatus, materials, devices, and machinery used. The L & I recognizes an establishment under the law as any room, building, or place (except farms or private dwellings) within the state where persons are employed or permitted to work for compensation of any kind to whomever payable.

L & I agencies are concerned with construction of the building and its ventilation and lighting; standing floor space for workers; as well as door openings, fire escapes, rest rooms, and fuel storages. The construction blueprints must carry the seal of a registered architect before construction will be approved by L & I. Normally, a reputable architect will be aware of building codes and regulations, and will incorporate these requirements into the final building plans.

It must be recognized that while the Occupational Safety and Health Administration and L & I are very similar in their approach to employee health and safety, differences do exist.

Approval by the USDA Food Safety and Inspection Service does not automatically imply that your plant layout will be approved by L & I. Coordination with both agencies is required in order to obtain the necessary approvals before construction starts.

The Idaho Department of Environmental Quality and the Washington State Department of Ecology Idaho's DEQ mission is, "To protect human health and preserve the quality of Idaho's air, land, and water for use and enjoyment today and in the future."

<http://www.deq.idaho.gov/>

DEQ is a state department created by the Idaho Environmental Protection and Health Act to ensure clean air, water, and land in the state and protect Idaho citizens from the adverse health impacts of pollution.

As a regulatory agency, DEQ enforces various state environmental regulations and administers

a number of federal environmental protection laws including the Clean Air Act, the Clean Water Act, and the Resource Conservation and Recovery Act.

The agency is committed to working in partnership with local communities, businesses, and citizens to identify and implement cost-effective environmental solutions.

The Washington State Department of Ecology is charged with similar duties.

<http://www.ecy.wa.gov/>

Usually these agency programs place greater emphasis on preventive steps for a better environment rather than enforcement. They monitor air and water quality, noise control, radiological health, occupational health, solid-waste management, and community sanitation. Other responsibilities include food protection, on-site sewage systems, private water supplies, and sanitation facilities and practices in schools, hospitals, mobile home parks, and recreational installations.

These agencies are concerned with how meat processing establishments dispose of waste water. Often individuals who go into the meat processing business have little idea of actual waste water generated in a typical slaughter day or what must be done to treat it and mitigate environmental problems. A disposal system must be well thought out in order to ensure effectiveness and economy of investment in necessary equipment and on-going operations. Establishments can be susceptible to law suits from neighbors or citations from enforcement agencies for non-compliance and harm done.

For spray irrigation or other overland disposal, or for biological treatment systems such as aerobic lagoons, a waste water disposal permit must be obtained from the DEQ or similar agency before construction or installation of the system may begin.

USDA or Custom Exempt Processing Many livestock producers see profit potential in selling meats slaughtered and processed on the farm. However, if you want to process and market livestock from your farm and at your farm or through other outlets, such as farmers markets, small grocers, or restaurants, you will have to address the applicable regulations.

Because handled incorrectly, meat (unlike most other farm products) can make us sick so it requires compliance with regulations found in the Washington State Department of Agriculture “The Green Book” <http://agr.wa.gov/Marketing/SmallFarm/Greenbook/> Small Farm and Direct Marketing Handbook and in Idaho’s version: Protecting your farm or ranch: A guide for direct farm marketing in Idaho from <http://www.ruralroots.org/>
<http://www.ruralroots.org/resources/directmarketing/handbook/41066-%20rural%20roots%20booklet%20table%20of%20contents.pdf>

For WSDA, contact the Office of Compliance & Outreach at smallfarms@agr.wa.gov or [\(360\)902-2057](tel:(360)902-2057)

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- ✦ [Running a Successful Farm Business](#) Like any business owner, farmers and those running farm-related businesses need to have the right licenses, pay the proper taxes, get the necessary insurance and be sure to have the financing to make their operation a success. This section covers all this as well as laws related to employees and labor.
- ✦ [Direct Marketing Strategies](#) One thing any business needs is customers. This section offers resources to help you find those customers and grow your business. Facts sheets cover selling to schools, restaurants, grocery stores and co-ops. Getting into agritourism, creating buyer's clubs and even donating to food banks are also included in this section.
- ✦ [Voluntary Certifications](#) Organic certification may be the best known of the certifications available to growers and food-related businesses. But there are several other possible labels available. Which ones best inform your customers about your products, your values and your priorities? This section explains some of the more common certifications, what's involved in obtaining them, and where to learn more about them.
- ✦ [Regulations for Food Processing](#) Are you a food processor, thinking of becoming one, or just not sure if the preparation of your product qualifies as food processing? Get the answers you need in this section, which covers everything from licensing requirements to where help can be found. Cottage Food permits, product recalls, and the new federal food safety rules are also covered.
- ✦ [Regulations for Specific Products](#) Some products, such as nuts, eggs, alcoholic beverages, lotions and cosmetics, have specific regulations that govern how they're handled, who can sell them, where their sold and a host of other aspects. Learn more about the various requirements for these and other specific products in this section.

Strongly consider selling meat from the farm as Custom Exempt The first rule to remember is that meat (not livestock) cannot be sold in Idaho or Washington until certified as clean and wholesome by the USDA FSIS, indicated by a USDA inspected stamp or logo on the product or

package.

An individual can slaughter and process his or her own livestock on the farm without inspection or inspected facilities. However, the meat may be used only by the livestock owners and members of their households, as well as nonpaying guests and employees. Those who deliver their livestock to a Custom Exempt plant operating under custom exempt plant regulations can have their livestock slaughtered and processed, provided they follow the same stipulation: They must return all such meat to their households, to be used exclusively by members of their households along with nonpaying guests and employees.

"NOT FOR SALE" must be stamped on each package immediately after wrapping, and kept so identified until delivered to the owner. USDA and state custom exempt establishments that process carcasses of animals slaughtered on the farm must conform to the following regulations:

- ✚ If the establishment prepares or handles inspected products for sale, these products must be kept separate from the non-inspected custom prepared products at all times.
- ✚ Non-inspected custom prepared products shall be marked "NOT FOR SALE" immediately after wrapping and kept so identified until delivered to the owner.
- ✚ If exempted (non-inspected) meat products are prepared or custom slaughter is performed in a plant that slaughters or processes meat for sale, facilities and equipment in the establishment used for non-inspected meat shall be thoroughly cleaned and sanitized before use in preparing inspected products.
- ✚ Exempted custom prepared products shall be prepared and handled in accordance with the provisions of the Federal Meat Inspection Act.

Approved procedures for farm-raised animals You as a producer can sell meat from livestock you raised, provided that the animal is slaughtered in an approved federal establishment. Each outgoing carcass or unpackaged part must be branded with the inspection mark. Each outgoing container of the product will have an inspection marked label.

Those who want to sell their livestock as meat products, such as ground beef or pork sausage, must meet the following conditions:

- ✚ Animals must be slaughtered in an approved federally inspected plant.
- ✚ Meat processed by a federally inspected establishment must bear a complete label on each package.
- ✚ Federally inspected meat processed by a retailer must bear a similar label.
- ✚ If the farmer's animal is slaughtered and processed under federal inspection, the farmer can bring the meat to his or her approved farm facility and sell it under state

regulations for retail sale.

USDA inspected plants also conduct non inspected, custom exempt slaughtering and/or processing. Therefore, those who wish to obtain salable products should make sure that all work will be done only under UDSA inspection.

State and Federal Regulations that may apply to a MSU

A state- or federally-inspected mobile slaughter unit (MSU), like any inspected meat slaughter or processing business, must comply with USDA food safety regulations promulgated and enforced by USDA's Food Safety and Inspection Service and, for state-inspected MSUs, the state's meat inspection program.

An MSU must also comply with a variety of other regulations promulgated and enforced by public agencies at multiple levels of jurisdiction, including municipal, county, state, regional, and federal.

Here, we walk you through the maze of regulations, based on the experiences of several operational USDA-inspected MSUs. Each state, county, and locality in the U.S. may do things slightly differently. However, these stories will help you get started.

For each example, we briefly describe the MSU operation, list the applicable agencies and regulations, and discuss challenges that have arisen and "lessons from the field."

Categories of Regulation

An MSU – and the farm/ranch-sites where the MSU operates – will typically be required to comply with regulations and permitting regarding:

-  Water supply and waste water disposal
-  Offal disposal
-  Food handling/distribution
-  Transportation
-  Food Defense
-  Humane livestock handling
-  Brand inspection
-  Business licensing/weights and measures
-  Employees

Food handling permits and even anti-terrorism requirements may also come up.

Every MSU must partner with a fixed facility (“cut and wrap”) where further processing is done. Often, the entity that operates the MSU also operates the cut and wrap and therefore is responsible for complying with all regulations relevant to that facility, not just the MSU. In some cases, the entity that operates the MSU has a contractual arrangement with the cut and wrap; the latter handles its own regulatory compliance. *

**Source extension*

State and federal regulations for retailing meat

A retail store is defined as a place of business, including farmers markets, where the sale of meat products is made to consumers only. Retail stores exempted from federal meat preparation inspection are not exempted from the adulteration and misbranding provisions of the Federal Meat Inspection Act. However, state and local authorities have the traditional and primary responsibility for the facilities, sanitation, and preparation of meat products at retail stores.

The primary purpose of retail reviews by the Meat Inspection Service usually is to examine incoming shipments. In addition, compliance officers can detain products at retail stores and document certain retail violations, including the sale of meat products not derived from inspected slaughter. Other regulations that apply to retailing meat include the following:

- ✚ Carcasses, cuts, and processed meats delivered to a retail outlet must first be slaughtered and processed in a federally inspected plant. The carcass and processed meat must bear the federal inspection stamp, as previously outlined.
- ✚ The meat must be delivered to the retail store in clean, identified containers and under sanitary and refrigerated conditions.
- ✚ At state regulated retail outlets, inspectors are not required during the cutting of meat into retail cuts.
- ✚ You cannot have a carcass cut by another retailer and sell that meat at your own facility.
- ✚ A retailer may cut for one additional outlet that he or she owns and still be federally exempt. If the retailer cuts for three or more outlets, then no more than two stores may operate on the same time schedule.

Retail operations

- ✚ Retail establishments are considered businesses in which the following operations are performed:
 - ✚ The breaking down of halves, quarters, or wholesale cuts into retail cuts such as steaks, chops, and roasts.
 - ✚ The grinding and freezing of products made from meat.

- ✚ The curing, cooking, smoking, or other preparation of products.
- ✚ The wrapping or rewrapping of products and separating bulk shipments of products for resale to customers.

Retail store limitations

The following limitations for normal retail operations describe some of the differences between retail stores that come under the jurisdiction of state regulations and wholesale operations that come under mandatory federal inspection; which is that at least 75 percent of total sales (dollar value) of meat and meat products are sold as retail. The balance, up to 25 percent, may be sold to hotels, restaurants, and institutions.

The Food Safety and Inspection Service (FSIS) announced the dollar limitations on the amount of meat and meat food products, poultry, and poultry products that a retail store can sell to hotels, restaurants, and similar institutions without disqualifying itself for exemption from Federal inspection requirements. In accordance with FSIS's regulations, for calendar year 2013, the dollar limitation for meat and meat food products is being increased from \$67,300 to \$69,600 and for poultry products from \$51,700 to \$54,500. FSIS is changing the dollar limitations from calendar year 2012 based on price changes for these products evidenced by the Consumer Price Index, effective April 23, 2013.

Exempted retailers may cure, cook, render, or refine products or prepare products from two or more ingredients only for direct sales to household consumers. Such products may not be sold to HRI accounts unless prepared under federal inspection.

Slaughtering and retort processing of canned products are not considered normal retail operations. Any quantity of product purchased by a consumer from a retail supplier is deemed to be normal provided the aggregate quantity purchased does not exceed one-half the carcass, which for cattle one half is 300 pounds; for sheep, 27 pounds; for swine, 100 pounds; and for goats, 25 pounds.

Farmers markets

The selling of meat to the public in Washington or Idaho, regardless of the sponsorship, comes under the jurisdiction of the Department of Health, Title 11 Chapter 29, Food and Food Products. Meat sold at a farmers market must be the same inspected product as that sold in other retail establishments. Regulations that apply to the basic standards of supermarkets also apply to farmers markets. However, if a federally inspected product is returned to the farm for wrapping and freezing for later selling through a farmers market, the entire operation comes

under the Department of Health and includes the following regulations:

§11-29-3 Meat, meat products, poultry, poultry products, dog, and cat food.

(a) Any meat or meat products or poultry or poultry products, if sold as a consumer commodity, shall conform to the identity and labeling requirements set forth by the Secretary of Agriculture, United States Department of Agriculture. As provided by the Secretary of Agriculture, raw chopped beef, raw ground beef, or raw hamburger shall not contain more than thirty percent fat. If any claims regarding the percentage of fat are made on the labeling of raw chopped beef, raw ground beef, or raw hamburger, the percentage of fat shall be declared in five per cent increments on the labels, if packaged, or on placards or handbills in plain block letters at least three-eighth of an inch high, if offered for sale in retail bulk form. The percentage of fat may be declared as "No More Than ____ % of Fat," or "Less Than ____% Fat," or a similar statement which is not false or misleading.

(b) Dog and cat food or any similar terms used in connection with any product shall mean a food product that is wholesome and nutritious for dogs and cats and shall comply with the following label requirements.

(1) The label must bear in legible manner, a statement of the "Guaranteed Analysis" which shall specify the minimum percentage of crude protein and crude fat and the maximum percentage of crude fiber present in the food; except that this requirement shall not apply to meat, poultry, or fish scraps prepared at the retail establishment at which it is sold.

(2) The label must bear a complete listing of ingredients in accordance with the provisions of 21Code of Federal Regulations Part 101.

(3) Misleading statements such as "Fit for Human Food" which might be construed as offering the product for human consumption are prohibited. [Eff. Nov. 5, 1981] (Auth: HRS §§321-9,321-10, 321-11, 328-21) (Imp: HRS §§328-6, 328-8, 328-10, 328-19.1)

Further

-  The facility where the processing, cutting, and wrapping are conducted must be approved for cleanliness. Operations must be clean and sanitary, and the personnel handling the product must comply with approved food handling procedures. Such a facility probably would be inspected at least once a year by the Department of Health.
-  All packages of meat must be identified by the name of the cut and usually the species and primal cut. The label must list the net weight of the cut along with the name and address of the seller.

- ✚ Meat packages to be frozen and stored should have an internal temperature of 0° F or below.
- ✚ Within two hours after wrapping, the meat to be frozen or refrigerated must be cooled to a temperature of 50°F or lower; and
- ✚ Within 4 hours after wrapping must be cooled to a temperature of less than 41° F.
- ✚ All packages of meat to be sold frozen must bear the words "KEEP FROZEN" on the package and be maintained in a frozen state at the point of sale.

To obtain state approval for a farmers market, you should first formulate a set of plans and an equipment list, and then contact the local state health inspector for further discussion. The inspector will have the instructions that a given facility needs to comply with any and all regulations required by the state Department of Health.

Labeling

In summary, Section 408 of the Federal Meat Inspection Act provides that labeling, packaging, or ingredient requirements in addition to or different from those made under the Act may not be imposed by any state with respect to products prepared at a USDA inspected establishment. This does not restrain states from having different requirements applicable to products prepared without federal inspection at retail or custom establishments. Most states require "NOT FOR SALE" on custom products. However, custom operators are responsible for correctly marking products they prepare.

In all cases you should consult the local USDA inspector or the agency that inspects retail stores for firsthand information on what you can and cannot do in handling your farm raised meat.

Personal Management

One of the biggest barriers to entry comes not from financial limitations, regulatory requirements, market potential, or resource availability, but from a lack of commitment. Tenacity can overcome virtually all obstacles. The commitment template offered below can be applied to many challenges, opportunities, and situations. Try it out and enlist a partner to help you follow through.

Subjective determination

On your computer or a separate sheet of paper

Describe your **present situation** (Use short, descriptive noun and verb language)

List **improvements** you could reasonably make to your situation

List **results** and the **date** you expect from improvements

Mark your impression along each **Subjective** continuum



Are changes **PROFITABLE?** Can I **MAKE** these changes? Will I **ENJOY** these changes?

Head/Logic

Hands/Action

Heart/Belief

Objective Decision and Commitment

I will COMMIT to these changes

Yes or No

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Although median family income is increasing, it seems that the proportion of family income available for discretionary spending is decreasing. Thus the market for less expensive meat products can be expected to continue.

Meat processing can be both challenging and rewarding. The potential for reward can be greatly improved by carefully evaluating the available resources and possible risks, then making a plan that will utilize the resources and minimize the risks. Pitfalls can be avoided through good planning and research and considerable reliance on the experience of others.

This manual has aimed to make the prospective meat processor aware of the many elements that should carefully considered before investing significant money and signing formal agreements.

Remember that history shows a high rate of new business failure. People who study business successes and failures say that a large number of the failures can be attributed to poor management. Planning is the first aspect of good management. Without planning, management becomes a guessing game.

Every proposed business venture needs to be subjected to a strenuous "go" or "no-go" test. The validity of this test depends on the care and level of expertise expended in planning. If the planning exercise shows that the potential for profits is marginal or just not there, give the whole idea a hearty goodbye. On the other hand, if your plan shows that profits are definitely in the picture, you are off and running. It is then a management game.

Just remember, a profitable business begins with effective planning.

Contractor response to

“Increasing prosperity for small farms through sustainable livestock production, processing, and marketing”

Published February 2014 by Darin A. Saul, Interim Director,

Office of Community Partnerships, University of Idaho

Overall, the project in this article found “that developing additional small-scale, USDA-inspected livestock processing in northern Idaho and eastern Washington is economically, socially, and environmentally feasible.”

It can often be the default thought process to get the cart before the horse; the “cart” being the desire to first build infrastructure and acquire equipment before the “horse” obviously being the livestock and process/product flow, as it were. In other words, if you build it, they will come. This is dangerous planning because there are many considerations, decisions, and investments to make before ever building or operating a new mobile, modular, or brick and mortar establishment -- or upgrading and existing one.

Listed below and pulled out of the study by Darin Saul are some areas of concern that should be addressed at the outset. These areas are by no means exhaustive but meant to spur the reader’s thoughts about their own operation and begin to make changes that can offer the biggest bang for the buck. Called “Marginal Reaction” in Holistic Management, it is meant that the reader prioritize and make changes to those areas which will bring about the optimal potential for their business and their management of available resources.

- ✚ Producers historically send their livestock to either the Davenport or Lewiston auctions. That won’t change easily. It’s hard to teach an “old dog” a new trick.
 - ✓ The recommendation is continue to send most of your livestock through the historic marketing channels. But consider keeping back a few of the best animals to add growth/value and move up the food chain. Start incrementally; build on success.

- ✚ Livestock, especially fat cattle, are selling for historically high prices at this time making the motivation to find new markets and take on additional perceived risk or work unattractive at this time.
 - ✓ Wholesale and retail meat prices are also at record highs and consumers have not backed off of demand. There can be good profit margins on the other side of the abattoir as well.

- ✚ There is no substantial accessible local feedlot in the study area. Most cattle weaned in the inland northwest are transported and finished in Midwest feedlots close to comparatively inexpensive corn.
 - ✓ Grassfed beef and lamb and pastured pigs all whose demand exceeds supply don’t require feedlots. Meat produced from seasonal grass can be frozen and sold throughout the year with little reduction in quality. It is far less expensive to store seasonally grass finished livestock meats in a freezer than to feed them on the hoof over the winter.

- ✚ The closest substantial processing facilities in the Inland Northwest are located in

the Columbia Basin some 3 to 5 hours away from most producers.

- ✓ Mc Cary's in Basin City can slaughter and/or process USDA meats. Though the Livestock Producer's Cooperative Association (LPCA) USDA facility in Odessa has closed, there remains the possibility that it could reopen under new management or ownership, offering another option. Organize Livestock Pools for transport for slaughter/meat pickup and share time, mileage, and fuel expenses with other producers. These *preliminary* options, though not fully utilized to date, would demonstrate the genuine need for a closer facility.

- ✚ But it was identified that there is no USDA processing facility within *reasonable* driving distance.
 - ✓ 4 Friends Meats in Clarkston, WA -- a much shorter drive than the Basin for most producers in the lower study area -- is an existing USDA processing establishment which can also accommodate custom USDA work. Further, it would be a logical next step for their institution to add most likely a Mobile Slaughter Unit to their operations since they are an established business and understand USDA Food Safety and Inspection Service regulatory compliances.

- ✚ Custom Exempt processors are common throughout the study area and though typically busy from August to mid-February, can affordably process livestock since overhead costs associated with a new plant and USDA compliance are much less vigorous and expensive.
 - ✓ Consider growing your own Custom Exempt meat sales. As an example, a pork producer in the inland northwest grows his own feed, raises his own weaner pigs, and processes about 900 per year in his own Custom Exempt facility on the farm with only family labor. He has a 5 month waiting list. Customers get high quality pork. He has won many awards. His prices are affordable. He controls his costs as he manages the feed and production schedule throughout. He only sells "retail" and not wholesale at a 35% discount. Customers come to pick up so he has no distribution costs. And he makes a good profit. Look yourself in the mirror and ask again if you *really need* USDA processing at this time.
 - ✓ Producers and entrepreneurs should consider starting a Custom Exempt plant if current establishments cannot meet their specific needs.

- ✚ Custom Exempt farm slaughter perception and reality is to sell exclusively to

family and friends. While the Custom Exempt requirement is that customers purchase animals “on the hoof”, though most often at a price based on the slaughtered animal’s hanging or carcass weight, there is no restriction on whom those “friends” are. In other words, a relatively large customer base can be served by a Custom Exempt plant so long as there is a name associated with the animal prior to harvest.

- ✓ Producers should consider building a larger customer base served by Custom Exempt processing.

✚ Quality and consistency. Consumer interest for niche meat products (i.e. local, grass fed, organic, humanely raised/animal welfare issues, cage free, environmentally sustainable, food security concerns, etc.) is significant and growing. However, the greatest motivating factor by far is local and remains the best marketing point for direct-to-consumer sales. Consumers resonate with supporting their local farmers and ranchers -- but only if meat products meet or exceed consumer expectations.

- ✓ Producers can sell a steak to any customer once. Success begins with repeat customers who then tell their family, friends, neighbors, and coworkers -- which is also the least expensive and most effective form of advertising. Always aspire to produce and provide consistent quality.

✚ Generally, price premiums for niche meat products can garner 10-25% premiums over “commodity” meat products. However, niche animal production and meat processing may cost more to produce since volume needed to cover overhead costs is significantly less.

- ✓ Cost controls throughout the supply chain must be adopted to generate adequate profit margins. Always look for areas to cut costs so long as core values such as food safety and product integrity are not compromised.

✚ Many livestock producers and processors have expressed a willingness to participate in a niche meat supply chain but willingness and actual participation are two different things. Producer pledge agreements may not translate into actual livestock delivered.

- ✓ Many the flock, narrow the gate. Producers need to be sure that they are able to and will deliver on stated intentions.

✚ A significant number of producers desiring small scale USDA-inspected meat

processing expressed interest in some form of a cooperative model since it can be difficult for any one entity to vertically integrate the entire production food chain. “No man is an island”; we need to work together as specialists in our own areas of expertise and interest.

- ✓ Agricultural cooperatives are most successful where producers band together to purchase bulk inputs at reduced costs such as fertilizer or fuel or in the sale of homogeneous commodities such as milk or wheat where differentiation is not necessarily beneficial to individual members. The niche meat business fits neither of these criteria. Grower agreements and contracts for specified deliverables on a case by case basis among supply chain participants is the best way to work together while working independently.

✚ Virtually all producers interested in niche meats are small to medium producers. Back yard flocks and herds dominate the production supply while producers most often make their living off the farm. Often other non-livestock economic factors motivate producers. These factors are many and varied such as reducing property taxes on agriculturally productive lands in open space, maintaining water rights (use it, or lose it), family history, pride from maintaining certain blood lines, desirable pastoral landscape, etc.

- ✓ If the small flock or herd is “subsidized” with off-farm income, retirement benefits, or “free” labor, producers need to understand that their enterprise is a hobby until it becomes economically viable on its own terms.

✚ Many producers strongly believe that grass fed creates a higher quality product. This can most certainly be true. But under-finishing livestock and/or using “non-grass friendly” genetics has often resulted in an average or even inferior product. Human nature can influence the belief that our own product is better than it may actually be.

- ✓ Producers would do well to “boil out” all pretentiousness or pride and objectively analyze the quality of product offerings. Additionally, they should seek out peer review in a constant pursuit of quality, incorporating constructive criticism where possible.

✚ The Commodity meats industry is very good at what they do and they are very efficient at how they do it. Small scale producers and processors cannot compete in a game against the big players whose “rules of operation” are

stacked against them.

- ✓ Play a different game with rules to your favor. Product differentiation is a key to financial success. The niche meat business can only compete and thrive by incorporating attributes that the big players cannot provide—a local story, and other qualities unique only to niche meat product offerings.

✚ Producers often realize that there is a waiting market but often complain that it is just too much hassle to haul, process, market them, or _____ (fill in the blank). An attitude prevails among many that “If only someone else would just do this (part) for me... then everything would be OK.

- ✓ “Ain’t no business been got that ain’t been went after”. And similarly, “You can’t steal second with your foot on first.” While none of “us” can do it all, still we can do more than we realize or imagine if only we would step out, take the risk, or make the effort. “If you do what you’ve always done, you’ll get what you always got”.

✚ Related to points raised above, many producers are satisfied with their profit on sales of live animals as custom exempt in quarters and halves to a few customers but cannot expand their business because of how much time direct marketing requires and have thus expressed interest joining a branding or marketing cooperative.

- ✓ Be it known that historically, the “big money” almost always goes to the one who sells rather than the one who produces. Modern commodity agriculture is full of this reality. “If you want average returns, do average things. If you want exceptional returns, do exceptional things.” Generally speaking, production is an “average” activity. Selling what you grow for most people is exceptional. Aspire to be a seller.

✚ Some producers do not have the ability to increase production adequately to cover an additional family-level income.

- ✓ Healthy business growth and family succession can be divisive or even catastrophic if not managed carefully. The niche meat producer must take care to “dial in” adequate profit margins from near the beginning of the venture.
- ✓ “You cannot grow your way out of financial trouble. You cannot borrow your way out of financial trouble.” If you don’t get the fundamentals of a positive cash flowing business under control early on, you may never.

- ✚ Some producers have indicated that a lack of year-round supply could be a constraint to (USDA inspected or Custom Exempt) processing.
 - ✓ While it is important for continuity to hire staff on a full-time basis or risk losing them to other businesses, seasonality in farm operations and processing across the agricultural world is not only common but universal. Why not also for the niche meat industry? For example, in the Palouse wheat industry, investment in hundreds of thousands or even millions of dollars is required for equipment that is only used a few weeks per year and then “mothballed” until the next season. Pumpkins are processed for pie almost exclusively eaten at Thanksgiving and then processors switch crops or reduce operations for a time. A provision exists in USDA Food Safety and Inspection Services (FSIS) to “Suspend operations” until further notice. The economics of each industry are, of course, different yet if investment in infrastructure is matched to a seasonal output and profit margin, then a case can be made for investment in meat processing that does not run at 100% production.

- ✚ Another significant barrier to entry into larger markets is the ability to offer weekly fresh (vs frozen) product.
 - ✓ Fresh is a whole ‘nother level of diligence compared to frozen. Shelf life for fresh is at best a month. Grocers, and restaurants to some degree, must significantly discount aged product to move it out of the case before browning and eventual discard. There goes the margin. It will be a requirement of most, though not all, larger clients to supply fresh. These are not your customers—at least not until significant supply volumes and levels of sophistication are achieved. Further, in a seasonal market, it is infinitely less expensive to store product in the freezer than on the hoof in the off-season. Inventory management becomes vastly simplified with frozen. Find those customers who can take frozen. If they demand fresh, offer to temper (thaw, safely under refrigeration) the meat for them and deliver it “fresh”.

- ✚ Skilled labor to staff a small multi-species slaughterhouse may be barrier to entry. Most custom butchers are nearing retirement age. The local university meats departments largely train students for careers at industry packinghouses and are not particularly well suited for the multi-disciplinary skills required of the niche meat processor.

- ✓ Every problem creates an opportunity. Solutions vary and a learning curve exists, but cutting meat isn't rocket science. This is not to denigrate a profession but to instill an attitude of realistic possibility. The savvy butcher will find methods of spreading a largely seasonal workload over more months and of adding value to lower-value cuts during slack periods. Business vacuums have a way of being filled by the entrepreneur-minded individual. And, the author can think of many tropical locations to find one's self when business slows down... Bring it on.

- ✚ The economic impact of a local processing establishment is expected to be small, directly ranging from up to 5-15 employees. Factoring in an estimated 3-fold local multiplier effect, an additional 12 to 35 related jobs could be created.
 - ✓ "The journey of a thousand miles begins with a first step." The majority of economic activity (and benefit, including tax revenue) in the United States is generated by small business, not (multi-national) corporate America. "If it is to be, it is up to me." "It takes a lead cow through the gate before the rest will follow. " "Like begets like. Apathy breeds apathy." But so also success breeds success—which is manifested through imitation and replication. Enough excuses, create results. The author apologizes for the excessive use of favorite sound bites, but they are truisms nonetheless. The fact is the economy of rural America, and the Palouse region in particular, are in decline even though it is one of the most productive agricultural regions of the world. People and their policies have been the problem. New people, creative solutions, and sound policies are the solution.

- ✚ A suggestion has been forwarded that niche meat products could be sold out of the Palouse area to customers in Seattle or Portland.
 - ✓ Local is perceived as being within 85 miles of the production appellation, not 400 miles as USDA suggests. True, there are infinitely more potential customers in the metropolitan areas west of the "Cascade Curtain", but the logistics and costs of distribution, of communication (more directly telling your story, maintaining a living and current website), and in levels of sophistication (labeling, branding, marketing, packaging, price points, consistency, and volume) are not (yet) within reach—and may not ever need to be. If average per capita consumption of beef is about 55 pounds per person per year, market share will not be saturated for some

time to come, if ever. Local market demand will always exceed supply -- most likely indefinitely unless some catastrophic change agent moves the masses to commodity meats only, in my opinion.

- ✚ Forums, interviews, and surveys indicated that USDA-inspected mobile slaughter is the solution most producers desired, followed closely by a brick-and-mortar establishment.
 - ✓ Experienced with USDA mobile slaughter, having designed, permitted, built, and operated the largest USDA mobile slaughter facility in my knowledge to date, I can attest to significant advantages of this model over fixed under certain operating and ownership conditions. However, under other conditions and assumptions, a fixed plant has the advantage.
- ✚ It has been concluded that overall, developing additional small-scale USDA-inspected livestock processing in the greater Palouse region is economically, socially, and environmentally feasible.
 - ✓ It certainly can be. No question, if within the right conditions. But at the end of the day, it must be economically viable for the all various small businesses involved or it remains a pipe dream only. Social and environmental benefits are important but cash is king. Beyond, “If the bills can’t be paid, it is not a viable solution”, is the fact that we not only want to engage in this endeavor, but that we enjoy our work—that we enjoy what we do. It is true that money does not buy happiness outright, but if the bills are not paid, there can be no happiness and there is no sustainability—the industry solution will win out. We really don’t want that. So we will persevere until we are successful or we are unable...

Based on a modest startup volume of three (3) beef equivalent per week for 50 weeks (150 head) the Mobile Slaughter Unit Cost Calculator spreadsheet written by Kate Painter, Analyst, University of Idaho Ag Economics & Rural Sociology in partnership with the author’s own former mobile USDA slaughter facility or using the GPMP Cash flow template spreadsheet (see attachments) it is possible to generate positive cash flows with the presently entered assumptions.

However, a more individualized and pragmatic approach addressing the local meats conundrum may be feasible. Thus recommended solutions in this Design Plan will be in alignment with the wise adage, “Start where you are. Use what you have. Do what you can.”

Though a given critical mass is necessary to enter higher-volume, lower-margin, “sophisticated”

meat markets such as HRI (Hotels, Restaurants, and Institutions) or local grocers and food cooperatives, starting small, keeping things simple, taking incremental steps, building on previous successes, and reinvesting retained earnings in additional infrastructure, equipment or labor will offer the greatest chance of sustained success.

Only when consistent proficiencies have been achieved over time should new levels of complexity be added -- up to an optimum scale. When momentum toward that “sweet spot” is apparent, healthy replication by others who are able to startup similar local meats business models in their communities will be the best measure of success.

Short circuiting parts of the knowledge curve Each potential “steak holder” is motivated by their own unique mix of drivers; sustainability independent of government subsidies, food security, food self-sufficiency, humane handling, health benefits, climate change, environmental benefits, profit, generational succession and the like.

It is admirable to initiate the endeavor and state, “OK, I got this.” Well, maybe you have, but often times you think you do when fully, you don’t. This comment is not meant to discourage producers from attempting the novel or unknown, but we must all walk before we run; we must wade in the kiddie pool before diving into the deep end. Many producers who desire to add more value and direct market possess an initial enthusiastic zeal which may not necessarily be accompanied by necessary niche meat industry acumen. Tempering enthusiasm with relevant knowledge and the success from mastering smaller direct market experiences first will benefit the producer who has learned to avoid potential pitfalls and early unrecoverable mistakes.

Enjoying the business of your profession as incremental growth spurts Business (life) comes mostly in bits and spurts rather than like straight-line projections. Producers can easily intellectualize what success will be like when... and rationalize the effort to get there, but many may find that once the challenge is achieved or they discover that they never really liked doing that kind of work, they ultimately shrivel up, wither away and leave the niche meat scene. I’ve seen it many times. The benefit from incremental growth (provided adequate critical mass was achieved) vs a larger full-fledged business investment is that one can opt out at earlier stages of the undertaking with minimal loss to professional reputation, ego, or personal and bank finances. Is this really what you want to spend your life energies on? And a companion question is, “What would be the alternative?” Cutting smaller social and financial losses earlier rather than enduring larger ones later is smarter personal discovery.

Variety is the spice of life—at least for some Yes, many people prefer the routine that comes with scheduled hours of operation as well as the security of a weekly or monthly payroll check, yet fewer careers or jobs can ever be as experience-full as life itself. Put inversely, life is bigger

than any one career. As professionals in our chosen careers, over time, we become very good at our daily routines and tasks. Yet, I submit that many producers are capable of being proficient at more than one profession simultaneously. In fact, most professionals change careers a few times over their productive years, most often because they want to learn and experience new things even while old positions have become monotonous or less meaningful. Those so inclined should challenge themselves to new skills, experiences, and yes, adventures in the niche meat world. New and rich flavors wait those willing to taste (take on) the unknown when compared to a more bland, homogenous, and stale state of being.

Rate of change and what that means for niche meat startups and business infrastructure

investment Businesses have always come and gone, but it appears that the rate of change is increasing these days. This is especially true of startups. The early years of a new venture will experience many birth and growing pains. Most small businesses don't last the first few years. If that's the case, doesn't it make the most sense to, in essence, "Court a potential spouse for a time before getting engaged and making the commitment to marry and settle down?" In other words, as your business venture develops, and your attractions grow, so also your commitment to greater levels of investment in durable assets (rings, houses, and kids). This is one the best reasons for a mobile/modular infrastructure solution, at least in the early years. One can let 'er / 'im go if it's not going to work out. You're not married (to it) yet...

And yet there will always be room for many small spread out meat companies offering unique quality products at reasonable price points between the few large concentrated company offerings and distribution systems. As an effective analogy, think of how much sand can be poured into a jar of marbles. There is room for all.

ABOUT THE CONTRACTOR

Joel Huesby owned and operated a small USDA meat processing establishment in Walla Walla, WA. He also designed, built, and operated his own USDA mobile slaughter unit to supply his meat shop with federally inspected carcasses. He currently operates a 400 acre certified organic family farm and custom grazes organic cattle during the off season.

He has consulted for other producer groups who also want to add value to their livestock by selling local meats from grass fed and naturally raised livestock. His first-hand experience has allowed him to guide others in virtually all aspects of local food system formation regarding livestock and meats. This has included, in part, plant design, permitting, supply chain management, USDA regulatory approvals, people and financial management, as well as distribution, sales, and marketing to optimize income throughout the production chain.