



# FARM TO TABLE

Connecting small - scale goat producers, meat processing establishments, and consumer in Texas

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## **EXTENSION COMMUNICATION MATERIAL**

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#### Introduction

Goats (Capra hircus) are among the first domesticated farm animals. Since their domestication some 10,000 years ago, goats have been raised by man and used for meat, milk, and fiber production. In addition to these products, goats also serve as major source of income, provide social and cultural values, and create an employment to millions of people around the world. Goats, like sheep and cattle, are ruminant animals that have four compartmentalized stomach, and able to feed on fibrous plant materials that will otherwise be wasted. They are very versatile ruminant that can graze on pasture as well as browse on brushes and trees. As browsers, they eat leaves, twigs and fruits from trees while they are still able to graze well mixed with cattle or sheep on common pastures. Goats are also well acclimatized to various ecological conditions, including dry lands with warm climates and erratic resources availability. On the other hand, they are eco-friendly brush control animals which are, in many states, used in natural resource conservation and landscaping projects. Manure from goats also has been used as organic fertilizer to maintain soil fertility. These unique abilities of goats to provide different food products as well as nonfood services, together with their ability to utilize marginal lands make these caprine species so popular among small scale livestock producers. Today according to USDA statistics 2018 report, there are about 3.5 million goats around the United State, of which Texas accounts for about 36 percent. In the US 80 percent of the goats are raised for meat production, 16 percent for milk and the rest 4 percent for fiber production, animal show and pet.

#### Over view of Goat and Goat meat Production in Texas

Texas is the leading national meat goat and goat meat producer. According to 2018 USDA, National Agricultural Statistics Service 2018 report (Texas Goat Inventory) Texas has 896 thousand goats. Most of the goat population is concentrated in the Southwestern and West central part of the state, Edwards Plateau in particular accounts for the largest goat population in the state and Schleicher County (21,935), Edwards County (45,700) and Sutton County (98,000) are among the ten top goat producers in the US. In Texas, due to their high adaptive capacity and level of fitness goats are raised under a wide range of farming systems. Majority of these goats are raised in extensive small scale farming although there are a few commercial goat producers that keep large flock of goats. These goats are multi-purpose animals with uses ranging from commercial meat, milk and fiber (mohair and cashmere) production to companionship, although 87 percent (780 thousand) are raised primarily for meat. This high goat population and highest interest in caprine meat production in Texas stems from two important reasons.

- First because of Texas's dry climate and suitable forage and browse species that are palatable for goats. Ecologically, the Southwest and West Central Texas are generally characterized by arid and semi-arid ecological conditions. They are dominated by draught tolerant woody plants such as trees and shrubs. These shrubs provide goats with additional feed resources in terms of browses (leaves, twigs and fruits) that support them during the dry seasons.
- Second because of the presence of ethnically diverse large metropolitan areas, namely Houston, Dallas, and San Antonio. These metropolitan areas are homes to many national origins (ethnic groups), including people from Africa, Caribbean, Hispanic, and Middle East with different cultural and religion backgrounds: Muslim, Orthodox Christian, Catholic and Jewish which are major caprine meat consumers. Moreover, it has been reported that caprine meat consumption has also been expanding to the U.S. born children of these immigrant groups. As a result, it is predicted that demand for caprine meat will be increasing from time to time, and processing of caprine meat in small scale slaughter houses is becoming an integral part of the food resources of Texas.

Today there are more than 140 small-scale slaughter houses that slaughter and process caprine meat across the state. Most of these small scale processing plants are located in and around the large urban areas. However, these small-scale goat operations are experiencing seasonal pattern in both sales volume and prices received from caprine meat. One major reason for this seasonally unstable marketing is that unlike beef, lamb, pork, and chicken, caprine meat is not part of the American mainstream diet, or eating habit. This is particularly evident among many African American and none Hispanic White American populations. Yet, it is predicted that the growing ethnic population in Texas will provide goat producers with additional niche market opportunities.

Small scale producers can be benefited from this emerging market if, however, they raise their goats under proper management practices, and identify the right marketing channels and marketing seasons. Moreover, in penetrating the mainstream meat market, developing value added caprine meat products could play significant role. However, information on production, processing and marketing of caprine meat especially value added Chevon and Cabrito is still scant among small scale goat producers, and millions of Texans. It is therefore apparent that as the ethnic population increase, demand for live goats and goat meat will likely to rise and Texas goat industry will continues to expand.

Therefore, in order to meet market demand for meat goats and goat meat, up-to-date information on goat production, developing and marketing value added products from caprine meat is paramount importance. Thus the object of the article is to provide goat producers, meat processors and consumers across Texas with information on how to raise goats for meat production, create value added caprine meat and process and market caprine meat under small scale system. The article focuses primarily on:

- Marketing of live goats, and major market channels in Texas
- Major caprine meat consumers and marketing seasons for caprine meat in large metropolitan areas
- Consumer preference for caprine meat cut ups (both Chevon and Cabrito)
- Processing (portioning, deboning), and grading of fresh caprine meat cut ups.
- Composition and nutritional value of caprine meat types, both Chevon and Cabrito.
- Further processing of caprine meat as a means of improving quality and developing value added commodities.
- Quality categories of live goats and goat carcass

## Why Do We Raise Goats?

As noted previously, goats provide multiple products. They produce milk, meat, skin, and fiber (mohair and cashmere). Goats also give other services such as generating income, creating employment, brush control, companionship and animal show. In addition, raising goats have economic benefits including favorable tax treatment and land appreciation. Most of the goats in Texas (more than 80%) are raised for meat production.

# **Major Breeds of Meat Goats**

In Texas, there are two breeds of goats, namely Boer goats, and Spanish goats that are recognized as commercial breeds and raised primarily for meat production.

#### **Boer Goats**

The Boer goats (Boer meaning farmer in Dutch word) were originally imported from South Africa in the early 1990's. A typical Boer goat has a white body with red head and large muscular body frame (see Figure 2). Other important distinct characteristics of Boer goats include their high growth rate and large body frame size. A mature Boar buck weighs on average 220 to 242 pounds while that of mature doe varies between 154 and 176 pounds. These body weight of goats can actually vary due to difference in nutrition, genetics, health and overall management practices. The breed also have the highest dressing percentage (hot carcass weight divided by live weight) than any other goat breed in Texas. They are also known for their good quality carcass, high tolerance to heat and for their ability to travel long distance. Boer goats are hardy animals with great capacity for adaptation arid lands. This means they are so fit to the ecological and climatic conditions of Texas. In addition, Boer goats are known for their high prolificacy with more than 50% Boer does produce twins while 10-15 percent produces triplets (average litter size is 2.0) and capable of three kidding every two years (on average one kidding every 7-8 months). A typical Boer doe remains productive from four to five years. Great success has also been reported in estrous synchronization and artificial insemination in Boer does.

Table 1. Reproductive performance characteristics of Boar Goats				
Characteristics	Definition	Percent		
Conception rate	Does kidding/does mated	90		
Kidding rate	kids born/does kidded	189		
	kids born/does kidded	210		
	kids born/does kidded	149		





Boer goats at the Prairie View A&M University, International Goat Research Center

# **Spanish Goats**

The Spanish goats came from Spain to the U.S through Mexico and they are now found in large population in the Edwards Plateau of Central Texas. They are relatively small goats and have relative lower dressing percentage than the Boer goats. Because of their ability to efficiently utilize browse plants such as brush and weeds as forage Spanish goats are used in brush control projects and in different regions Spanish goats are known as "wood", "brush", "barrier", "hill" or "scrub" goats. Spanish goats are also known for their strong, fertile and high parasite resistance characteristics. In many parts of Texas. Goat producers also use Spanish goats in a crossbreeding with Boer goats to produce commercial meat goats. These Spanish-Boer crossbred goats are much larger than the original Spanish goats and have better dressing percentage.



Spanish Goat in Barn at the PVAMY International Goat Research Center

## Other goat breeds

In addition to pure Boer, Spanish breeds and their crosses bred goats, other goat breeds such as Angora (fiber), Alpine (dairy), Nubian (dairy), and the Kiko are also used as caprine meat sources. Pygmy goats (Cameroon Dwarf) are small sized goats mostly used as pet but sometime they are also considered as meat goats

## Marketing of Meat Goats and goat meat in Texas

## What, where and When

Goat meat have been used as major red meat source by many ethnic groups inhabiting in Texas. Many of these ethnic groups have cultural and religious customs regarding their eating habits. Because of the associated customs many immigrants population prefers to have fresh meat to frozen one. Particularly, people in the Islam, Jewish and Orthodox Christian religions would normally like to have goat meat that is slaughtered and processed according to their belief or dietary laws. As a result of these religious laws there are different types of caprine meats such as halal, or zibaha, and kosher. Different ethnic groups have traditional holidays that celebrate by making various traditional foods from goat meat. During these holidays these ethnic consumers purchase life goats either directly from producers or middle men and slaughter them, or they just buy goat meat from retail stores. Since these holidays are celebrated in different seasons of the year, and demands for goats and goat meat varies from season to season. Particularly demand for goat meat exceeds supply in many metropolitan areas of Texas during holiday seasons, This explains why although Texas is the largest meat goat and goat meat producer in the US as a result of this high demand for goat meat the U.S imports about 40% of frozen goat meat from Australia and New Zealand. In the U.S, particularly in Texas goat meat consumption has increased tremendously among ethnic consumers mainly due to goat meat's high nutritional value, including good flavor, juiciness and tenderness.

#### When to Sell Goats

The best time to sell goats largely depends on the type of goats (age, weight, and sex) to sell and whom to sell. Demand for goats and goat meat is very seasonal, and heavily depends on ethnic holidays (see Table 1). Some religion and cultural laws necessitate the purchasing of live goats. As a result some consumers directly purchase their goats from producers by visiting the farms, whereas others from small scale slaughter houses. In Texas demand for caprine meat reaches peak during specific ethnic or religious holidays. For example, there is high demand for halal meat during the holiest months of year that is May through August. This is because two of the major Muslim holiest events, namely Ramadan (fasting period) and Id al-Fitr (Festival of the breaking of the fast) occur during these months. Easter, both Roman Easter and Greek Easter, and Cinco de Mayo are other major holidays that large number of goats are marketed in Texas. During these months, demand particularly for young goats increases and price goes up although there are times where price drops due to oversupply of goats. For better returns, therefore, producers can sell their goats two to three weeks before the holiday when goat meat is typically served.

The above specifications are recommended for use by producers, processer and fresh meat purchaser (wholesaler, retailers or restaurants) when placing or receiving orders from a USDA-inspected processing establishments.

Some ethnic consumers also enjoy eating goat giblets including tongue, head, heart, liver, stomach (rumen), small intestine and testicles. These giblet products are packed and labeled in containers and are available in ethnic groceries. For example Halal grocery in Houston serves these products (see figure 5).

Table 2. Targeted ethnic holidays with high demand for caprine meat

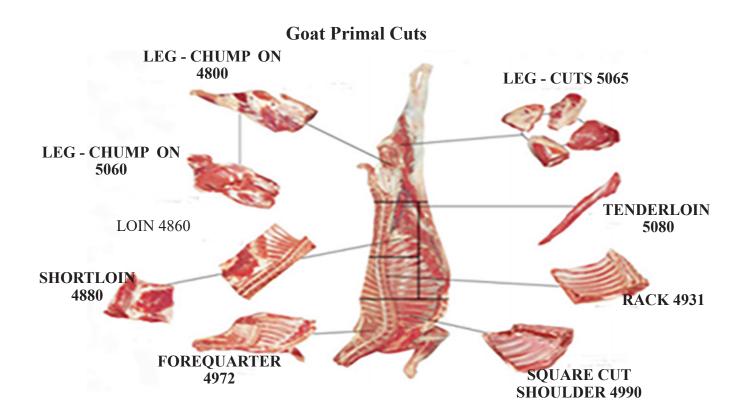
No	Ethnic Holidays	Date	Preference	Required Optimum (Weight in Pounds)
1	Western Roman Easter	March-April	Mild fed kids, 3 months or younger	30
2	Eastern Orthodox Easter	April - May	Mild fed kids, 3 months or younger	35
3	Mother's Day	May	Suckling kids or Larger	60
4	Cinco de Mayo	5- May	Suckling kids	15-30
5	Ramadan	June-July	Male or female with all milk teeth ≤12 months, intact or castrated	60
6	Id al Fitr	July - August	Male or female with all milk teeth ≤12 months, intact or castrated wethers)	60
7	Navadurga, Dashain	October	Castrated male (wethers)	60-120
8	Eid al-Adha	September- August	Yearlings	60-100
9	Muharramn	October - November	Male or female with all milk teeth, ≤12 months, whole or castrated	60
10	Diwali	October-November	Castrated male	60-120
11	Christmas and New Year	Dec.25 & Jan. 1	Milk fed kids	1830
12	Caribbean holidays and Chinese market for goat		Young, smelly bucks, older animals of all sexes	60-80
13	High school and College graduation Days**	May-June	Male or female with all milk teeth ≤12 months, intact or castrated (wethers	60

	Table 3. Purchaser special requirements for ordering fresh goat meat				
No	Selection Number	Class	Maturity	Breed Type	Slaughter Method
1	Selection #1	Buck (male)	Kid goat (14 months or less)	Diary	Halal
2	Selection #2	Doe (female)	Yearling goat (14 to 24 months)	Meat	Kosher
3	Selection #3	Wether (castrated)	Goat (more than 24 months)		Conven- tional

Source: Institutional Meat Purchase Specifications 2001 for more detail definition of Selection number see table 4))

Figure 3. Major goat meat giblets and small cuts available in ethnic groceries





Source: https://www.usda.gov/sites/default/files/media/GoatIMPS%5B1%5D.pdf

## What types of goat meats are available?

Based on the age of the animal at the time of slaughtering or method of slaughtering goat meats are categorized as chevon, cabrito (based on age) and halal, kosher or conventional (based on slaughter method).

#### **Chevon and Cabrito**

Throughout the world, goat meat is generally considered as a lean red meat. Both goats and kids are raised primarily for meat production and based on the age or maturity of the animal at the time of slaughter, goat meat is described as Chevon or Cabrito (Spanish) or Caprreto (Italian).

- Chevon is a meat from mature goats (bucks, does, and castrated) older than 12 months
- Cabrito is meat from young goats (less than 12 months old). It includes meat from both male and female.

These two terms are commonly used to describe goat meat in commercial meat markets.

#### **Halal Meat**

Muslims eat halal or Zibaha meat. According to Islamic Food and Nutrition Council of America, "halal meat" is a type of meat that is derived from animals slaughtered in accordance with Islamic law. The law strictly requires the pronouncing of God's name (Allah) at the time of slaughtering. For halal slaughter the throat of the animal is cut using hand held knife for complete bleeding which causes loss of the life of the animal. Most halal meat are produced and processed in a small, religious or custom

exempted slaughter facilities. Yet only a few slaughter houses for example Garza Cabrito in Humble has a Muslim employee who is designated to perform the slaughtering livestock according to Halal requirement.

#### Kosher meat

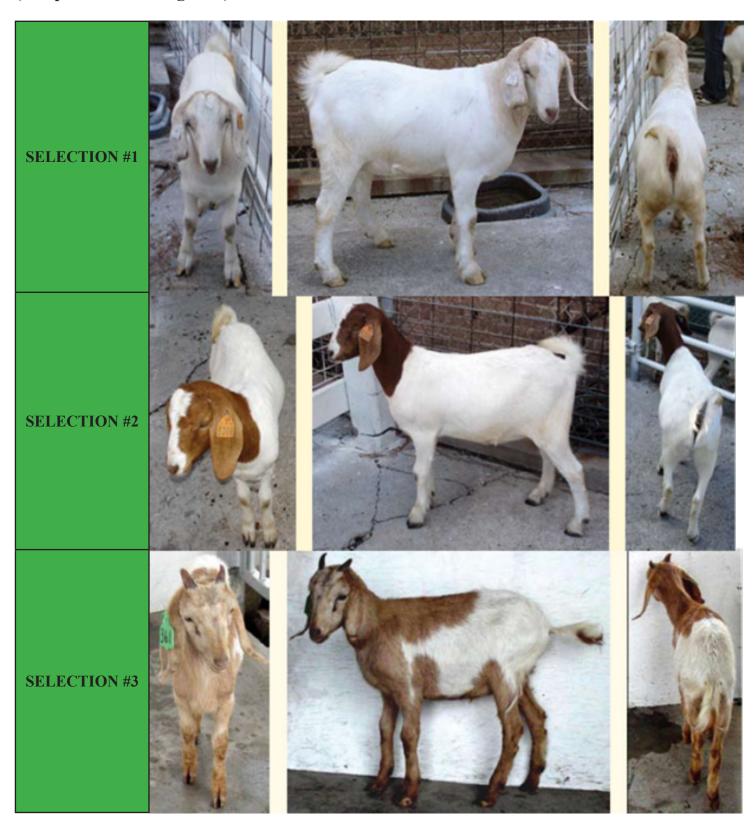
Jewish eat Kosher. According Jewish religious dietary law, meat from land animals, including goat should be processed following the laws of slaughtering known as Shehitah). Shehitah requires the animal to be slaughtered using hand knife and the meat should be salted to completely remove the blood from the carcass.

#### MARKET GRADES OF LIVE GOAT AND GOAT CARCASS

According to the USDA guideline for grading carcass quality, live goat and carcass from goats are categorized into four classes as USDA Selection 1, USDA Selection 2, USAD Selection 3, and Utility. The description for each class is presented in Table 4.

Table 4. Market grades of live goat and goat carcass based on body conformation				
NO	Quality Category	Description	Picture	
	Selection No. 1	<ul> <li>Goats and/or carcasses have a superior meat type conformation without regard to the presence of fat cover.</li> <li>They shall be thickly muscled throughout the body as indicated by a pronounced (bulging) outside leg (biceps femoris and semitendinosus)</li> <li>a full (rounded) back strip (longissimus dorsi), and</li> <li>a moderately thick outside shoulder (triceps brachii group).</li> </ul>		
	Selection No. 2	<ul> <li>Live goats and/or carcasses have an average meat type conformation without regard to the presence of fat cover.</li> <li>They shall be moderately muscled throughout the body as indicated by</li> <li>a slightly thick and a slightly pronounced outside leg (biceps femoris and semitendinosus)</li> <li>a slightly full (flat or slightly shallow) back strip (longissimus dorsi)</li> <li>a slightly thick to slightly thin outside shoulder (triceps brachii group)</li> </ul>		
	Selection No. 3	<ul> <li>Live goats and /or carcasses have an inferior meat type conformation without regard to the presence of fat cover.</li> <li>The legs, back, and shoulders are narrow in relation with its length</li> <li>they have very angular and sunken appearance.</li> </ul>		

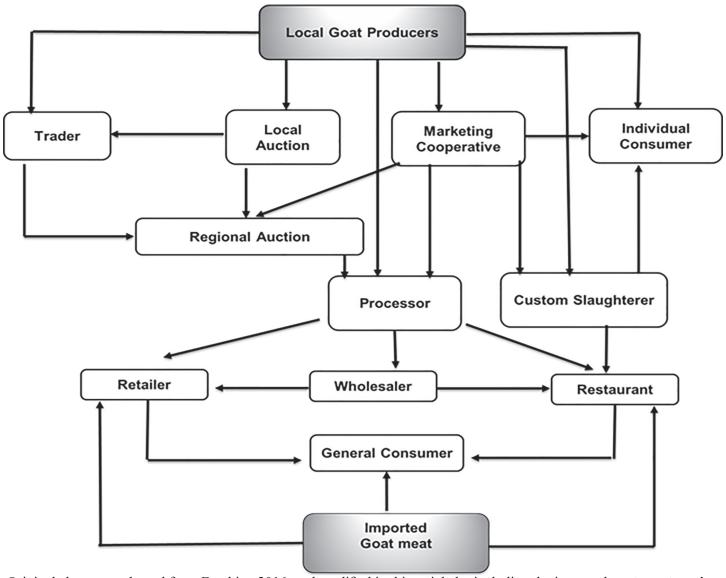
Figure 5. Comparison of different goat Selection numbers based on body conformation (Adopted from Dwitght L.)



#### Where to Sell?

Figure 5 shows the different market outlets or channels that goats and goat meat are marketed. In Texas, depending on the availability of animals and season of the year, goats are marketed through different channels, at different size, age and gender. As mentioned, most of the time goats are slaughtered for religious and traditional purposes and goat producers sell their animals through the following market outlets.

- 1. **Directs sell to consumer** Producers sell goats directly to individual consumers who prefer to have live goats and slaughter the goats according to their traditions and beliefs.
- 2. **Auction markets:** Most producers market their goats through local or regional auction markets at specific times.
- 3. **Cooperative Markets:** Producers also create producers Cooperative and market their animals together to different outlets.
- 4. **Small Scale slaughter houses.** The facility involves slaughtering and processing of goats marketed to customers. The plant can purchase live goats either directly from producers, or from local and regional auction, or marketing cooperative and can operate either as custom exempted or USDA –inspected plant.
- 5. **Import:** In addition to the domestic supply, consumers also use frozen goat meat imported from other US states, or from oversea. About 40 percent of the goat meat consumed in the US is imported from both New Zealand and Australia.



Original chart was adopted from Franking 2016, and modified in this article by including the imported goat meat section.

## Why Do We Eat Goat Meat?

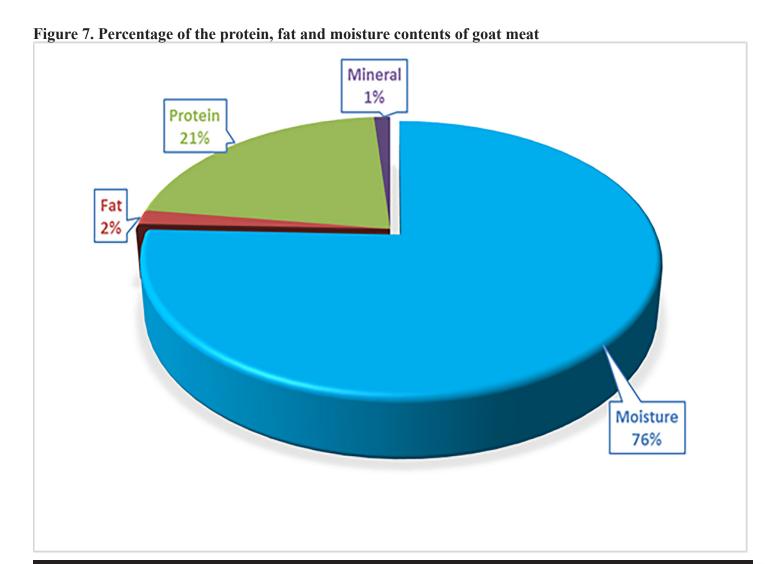
Red meat particularly that from ruminant animals has bad reputation due to its high saturated fatty acids content, low ratio of polyunsaturated fatty acids (PUFA) to saturated fatty acids (SFA) and high content of cholesterol. Many health conscious US consumers are now preferring meat and meat products which contain minimal or no fat and cholesterol. Goat meat meets this demand of many consumers. In fact, studies have shown that during the last decades, goat meat has gained a growing interest in the US, due to its high nutritional values and healthy nature including lower fat and cholesterol contents, and high palatability (flavor, tenderness, juiciness).

## What Makes a Goat Meat High Quality and Healthy?

Goat produces leaner meat than any other red meats. Especially when goats are slaughtered at early age between 6 and 15 months, the meat has high quality in terms of flavor, juiciness, and tenderness, and considerably higher and balanced contents of most desirable nutrients (protein, unsaturated fatty acids, and minerals).

## **Chemical Composition of goat meat**

Chemically goat meat contains energy (carbohydrates and fats), proteins, mineral and vitamins and moisture. A typical mature goat meat contains 74.2–76.0% moisture, 20.6–22.3% protein, 0.6–2.6% fat, and 1.1% ash or mineral (See Figure 7). The proportion of these chemicals, however, differs depending on the age, sex, genetic or breed, feeding and other management practices.



#### **Protein Contents**

Goat meat cuts have protein levels comparable to similarly prepared beef, lamb, and veal (See Table 6). In addition, protein from goat meat have balanced contents of both essential and nonessential amino acids. The concertation of these amino acid, however, varies depending on the age and sex of the animals at the time of slaughter. For instance, data on the Table 5 shows that except for cysteine, histidine, glycine, methionine, tryptophan meat from mature female goats has the highest amino acids compared to those from male kids, young females and wether or castrates

Table 5. Amino acid composition (g/100g) of muscle of male kids, young female, castrates and does				
Amino Acid	Male Kids	Young female	<u>Castrates</u>	<u>Does (Mature</u> <u>female)</u>
Alanine	4.83	4.82	5.03	5.10
Arginine	5.53	5.44	5.67	5.95
Aspartic acid	7.65	7.73	8.01	8.13
Cysteine	0.92	0.94	0.92	0.93
Glutamic acid	13.4	13.25	13.8	14.14
Glycine	3.76	3.91	3.93	3.88
Histidine	2.26	2.44	2.48	2.55
Isoleucine	3.93	3.82	3.86	4.04
Leucine	7.03	6.83	7.1	7.34
Lysine	8.36	8.11	7.52	8.04
Methionine	2.22	2.22	2.29	2.25
Phenylalanine	3.63	3.5	3.43	3.61
Proline	3.15	3.27	3.32	3.34
Serine	3.76	3.79	3.89	3.99
Threonine	4.64	4.67	4.67	4.82
Tryptophan	0.99	1.00	0.79	0.77
Tyrosine	3.07	3.01	3.24	3.27
Valine	3.97	4.02	4.06	4.24
Source Webb et al. 2005				

#### **Fat Contents**

Goat meat is regarded as leaner meat because in comparison with other types of meat it has less contents of fat, and overall energy. Goat meat has 68%, 49% and 48% lower calories than pork, beef and lamb. It also has lower total fat and saturated fatty acids contents even than chicken (Table 6). On the other hand, goat meat is high in unsaturated fatty acids such as linoleic and oleic fatty acids. These fatty acids are regarded as desirable fats because they do not have adverse implications on consumer's health. Whereas high consumption of saturated fatty acids is generally associated with cardiovascular disease. Goat meat also has lower cholesterol contents and considerably high iron content. As a result, goat meat is healthy meat that fits the dietary demand

of the currently health- conscious society and is becoming a prime choice to many ethnic consumers. This may explain why, comparatively speaking, goat meat is more expensive than pork, beef and lamb.

<b>Table 6. Comparison of the chemical composition of goat</b>
meat with that of other species on 85 g roasted meat

	Energy	Fat	Saturated	Protein	Iron
Species	Calories	<b>(g)</b>	fat	<b>(g)</b>	<b>(g)</b>
Goat	122	2.58	0.79	23	3.2
Beef	245	16	6.8	23	3.0
Pork	310	24	8.7	21	2.7
Lamb	235	16	7.3	22	1.4
Chicken	120	3.5	1.1	21	1.5

Source Malan (2000)

## Processed value added goat meats

Since ethnic consumers still prefer fresh goat meat more than frozen goat meat, only little further processed Chevon and Cabrito are available. However, to improve the value of goat meat through further processing, currently some small goat meat processing plants are producing different ready-to-cook products. These major value added goat meat products includes:

- Smoked sausages
- Fermented sausages
- Deboned carcasses
- Fabrication of goat carcasses into cuts and cut sizes.

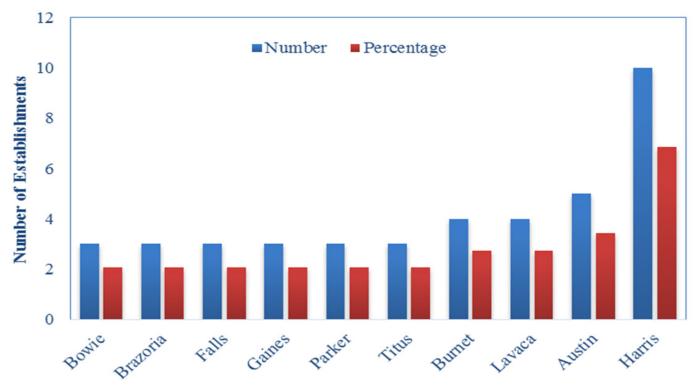
Because of these fabrications, today limited cuts and cut sizes of goat meat in a ready-to-cook fusions are emerging in wholesalers, and retailer stores. However, in order to penetrate the US general meat market more value added products from goat meat should be created and prepared.

Figure 7. Whole goat carcass while being weighed for sale per pound in ethnic grocery



## Slaughtering and Processing establishments in Texas

According to data obtained from the Texas Department of Health Services, Meat Safety Assurance Unit Texas has about 145 different small scale slaughtering and/or processing establishments (see Appendix A). These establishments are distributed across 93 counties although most of them are located in and around the large metropolitan areas of the state. For instance figure 8 shows that about 7% of the granted establishments are located in Harris County, 3% in Austin County and Lavaca and Burnet Counties account for 2.8% each whereas the remain 86% are scattered across all over 89 different counties. These slaughtering houses are currently operating either as custom exempted establishments, or USDA-inspected plants.



# **Custom exempted establishments**

Custom exempted establishments serve individual customers, mostly ethnic group customers who like to purchase live goats, kill or facilitate the killing of their pick animals, and cut and process the carcass according to the customer's tradition or religion. Goats are sold per head and price is determined through bargain or negotiation. In many ethnic groups, price negotiation is part of their culture. In custom establishments the premises is owned and operated by the seller, and no inspection of carcass is required. As a result, all carcasses prepared in the establishment are an uninspected and are for the exclusive use of the purchaser.

# **USDA-inspected establishments**

USDA-inspected establishments slaughter goats according to the USDA guidelines. They purchase live goats from either local producers, auction (local and regional) or marketing cooperatives. Market price of goats is determined based on live weight, age, and sex of the animal. In these establishments, both carcass and giblets are inspected by authorized USDA meat inspector. Once the meat is inspected and passed by the inspector, the facility can process the carcass in house, and supply either whole carcass or different meat cuts to consumers, including wholesalers, restaurants, or other further processing plants in different forms and size. The most common cuts produced by USDA-inspected plants and reach wholesaler, retailers and individual consumers are:

- Fresh meat (Chevon and Cabrito) cuts
- Chilled or frozen whole carcass
- Chilled or frozen cuts with bone in
- Chilled or frozen boneless cuts

Table 7. Small scale granted slaughter and process establishments in Harris county				
Slaughter House Name	<u>City</u>	<u>Address</u>	<b>Phone</b>	
Texas Farm Fresh Halal Meat	Houston	13221 Old Richmond Rd, Houston, TX 77083	(281) 564-9088	
Cabrito Garza Meat Processing and Taquera	Humble	4519 Theisis drive, TX 77336	(281)-443- 8185	
Tai Hung Farm Poultry	Houston	13227 Old Richmond Rd, Houston, TX 77083	(281) 495-8847	
Mercy Slaughter	Katy	2755 Porter Rd, Katy, TX 77449	(281) 650-0300	
Harris Country Farms	Houston	15437 Miller Rd 1, Houston, TX 77049	(281) 452-3250	
Old Richmond Farm	Houston	13235 Old Richmond Rd, Houston, TX 77083	(281) 495-3099	
Jimmy's Goats & Sheep	Houston	4110 Hopper Rd, Houston, TX 77093	(281) 449-2067	
Hamza Farm	Rosharon	9002 Puritan Way, Rosharon, TX 77583	(713) 459-3556	
Texas Livestock and Halal Meat Processors	Houston	7206 McHard Rd, Houston, TX 77053	(346) 888-6535	

## **Conclusions and perspectives**

As the modern US population is becoming more health conscious, the demand for leaner and healthier meat is expected to increase substantially. Beef, pork, lamb and chicken are the major meat types that are commonly eaten in the US family kitchens. These red meats, however, have bad reputation because they have high concentrations of saturated fatty acids, cholesterol and calories that are directly associated with cardiovascular diseases. In contrast, recently goat meat has emerged as alternate leaner and healthier meat. Goat meat is regarded as healthy meat because it has low contents of the health precarious nutrients (saturated fatty acid, cholesterol) and is an excellent source of high quality protein. Although the meat has been used as a primary source of red meat, particularly by major ethnic groups, it is not part of the American mainstream eating habit. This is particularly true among African American and none Hispanic White American populations. One possible reason for this is that unlike beef, lamb, pork and chicken, there are no many ready-to-cook goat meat products on market. Another possible reason is that the negative perception that people have towards goat meat, which stems from lack of information.

Current trend shows that with the growing ethnic population in Texas, demand for goat meat will continue to increase at higher rate. Nevertheless, fresh goat meat is in short on market and current domestic supply is not adequate to meet consumer's demand. In addition, dictated by ethnic consumers' cultural and religious values demand for goat meat is seasonal and consumer's preference to meat cuts is highly diverse. For example, Muslim consumers favor large goats (Chevon), whereas Hispanic consumers prefer young goats (Cabrito).

Therefore, fabrication of goat meat into different further-processed products such as the so-called muscle

foods (hot dog, ham, jerk and sausage) not only will add value to goat meat but also will enhance its marketing through penetrating the general Texas meat market. In addition, connecting goat producers, small scale processing establishments and consumers by providing information on goat meat quality, possible marketing channels, major ethnic holidays and consumer preference (for live goat and goat meat) will help all stakeholders make informed decision regarding selling or purchasing goat meat products. We believe that this article presents such information, and goat producers, processers and consumers, at least in Texas, will be benefited from this article. We also believe that this article can serve as an educational material to extension agents in Texas.

#### References

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Appendix A. List of names, physical address and phone number of Slaughtering and Processing Establishments in Texas by county.

#### LIST OF GRANTED MEAT PROCESSING ESTABLISHMENTS IN TEXAS BY COUNTY

# **Austin County**

Rancher's Meats, Inc. 3732 Farm Market 529 Bellville TX 77418 (979) 865-3822

Texas All Grass-Fed 1962 Hluchlan Rd. Sealy TX 77474 (713) 447-7737

Ali's Farm LLC 6707 Brockstein Rd. Sealy TX 77474 281-966-5327

Eckermann's Meat Market, Inc. 2543 FM 1457 New Ulm TX 78950 (979) 836-8858

Smithville Food Lockers 305 Royston Smithville TX 78957 (512) 237-2438

# **Baylor County**

Bayco Meat Processing 205 East McLain St. Seymour, TX 76380 (940) -889-2424

## **Bexar County**

Schott's Meat Processing 20145 Bandera Rd. Helotes TX 78023 (210) 695-5411

# **Bosque County**

Meridian Frozen Food Locker 106 E. Morgan Street Meridian TX 76665 (254) 435-2803

# **Bowie County**

DeKalb FFA 101 S.W. Maple StDeKalb, TX 75559 (903) -667-2566 Ext 2300

**Hooks FFA**401 East Avenue A
Hooks, TX 75561
903-547-2215

Redwater FFA 202 Red River Road North Redwater, TX 75573 (903) 671-3481

# **Brazoria County**

Uncle Bob Poultry Farm 1665 County Road 129 Alvin TX 77511

(832) 766-8753

19

Hamza Farms 9022 Puritan WayRosharon TX 77583 (713) 459-3556

## **Brazos County**

Meat Science & Technology Cent

Meat Science & Tech Center College Station TX 77843 (979) 845-5651

## **Brewster County**

Sul Ross State University 90560 E US Hwy 90 Alpine TX 79830 432-837-8208

## **Burnet County**

**Capital Meats LLC** 

9714 CR 272 Bertram TX 78605 512-538-5689

3 GK Farms

1805 S FM 1174 Bertram TX 78605 512-635-2380

**Capital Meats LLC** 

9714 CR 272 Bertram TX 78605 512-538-5689

**Hill Country Fine Meats** 

1405 State St.Marble Falls TX 78654

#### **Callahan County**

**The Butcher Block** 

125 N. Ave. DCross Plains TX 76443 (254) 725-4035

#### **Carson County**

Clint & Sons 119 West 3rd Street White Deer TX 79097 806-883-7831

#### **Cass County**

**Coats Processing** 

745 CR 4676 Atlanta TX 75551 (903) 796-6817

Hughes Springs Frozen Foods 105 Foster St. Hughes Springs, TX 75656 (903) 639-2941

## **Cherokee Country**

**PNP Processing** 

1790 CR 4501 Jacksonville, TX 75766 (903) 726-9509

**Dyess Processing** 

3451 CR 1301 Rusk, TX 75785

#### **Coleman County**

**Hall's Custom Processing** 

3500 N. Highway 84 Coleman TX 76834 (325) -625-4813

# Santa Anna Custom

**Processing** 

503 Wallis Santa Anna, TX 76878 (325) 348-9171

## **Collin County**

**ANM's Farm** 

4024 N Hwy 78 Wylie, TX 75098 (972) 365-7630

#### **North Texas Halal Farm**

18366 County Road 656 Farmersville TX 75442 (972)-782-8680

## **Collingsworth County**

#### A & K Meat Processing

1303 8th Street Wellington TX 79095 806-447-5660

## **Colorado County**

Kasper Packing Co.

2109 West Highway 90 Weimar TX 78962 (979) 725-6203

#### **Comal County**

**Granzin's Meat Market** 

1644 McQueeney Rd New Braunfels TX 78130 (830) 625-3510

Koepp Quality Processing 2941 Hunter Rd New Braunfels TX 78132 530-632-5484

## **Comanche County**

**Cox Processing** 

3050 Highway 2861 Comanche, TX 76442 (254) -879-3313

## **Cooke County**

Bayer's Kolonialwaren

824 E Division StMuenster, TX 76252 (940) 759-2822

Hess Meat Market Inc.

605 N Mesquite StMuenster, TX 76252 (940)-759-2744

## **Dallam County**

**Texline Meat Processing** 

Star Route 844 Texline TX 78087 806-362-4551

## **Dallas County**

**Progresso Farms** 

2320 West Malloy Bridge Seagoville, TX 75159 (469) -931-0811

#### **Dallas and Ellis**

Triple J Livestock, LLC

1200 Mars Road Ferris, TX 75125 (214) -562-1272

#### **Eastland County**

## **K&S Custom Processing**

8911 Highway 6 East Cisco, TX 76437 (254) -433-9121

## **Erath County**

## **Tarleton State University Meat**

**Lab** Farm Road 8 Stephenville, TX 76401 (254) 968-9204

#### **Falls County**

## Westphalia Market, Inc.

734 State Highway 320 Lott TX, 76656 (254) 584-4060

#### Westphalia Market, Inc.

734 State Highway 320 Lott TX 76656 254-584-4060 Falls

#### **Big Creek Butcher Shop**

606 North Highway 6 Marlin, TX 76661 (254) 883-3131

## **Fannin County**

#### Bluebonnet Meat Company,

LLC 719 S Pearl St. Trenton TX 75490 (903) 989-2293

#### **Eden View Farms LLC**

17690 S Hwy 121 Trenton, TX 75490 214-878-9699

#### **Fayette County**

#### Willie Joe's Processing

2218 Krischke Road Schulenberg TX 78956 (979) 561-8272

#### **Fort Bend County**

#### **Beasley Ranch**

2134 FM 1875 Beasly TX 77417 713-498-1077

#### **Freestone County**

## J & S Meat Processing LLC

180 FM 833 Fairfield, TX 75840 (903) 389-9964

#### **Gaines County**

#### **West Texas Meats LLC**

601 Railroad Ave Seagraves TX 79359 (806) 387-3532

#### **West Texas Meats LLC**

601 Railroad Ave Seagraves TX 79359 806-387-3532

## **Klassen Custom Butchering**

134 CR 320, Seminole Seminole TX 79360 432-955-0767

## **Galveston County**

**Dorecks Meat Market** 4101 Highway 646 N Santa Fe TX 77510 (409)925-6611

Hitchcock Meat Plant 10011 Highway 6 Hitchcock TX 77563 (713) 206-0150

#### **Garza County**

Jackson Brothers Food Locker 121 South Avenue H Post TX 79356 806-495-3245

## **Gillespie County**

**Dutchman's Market** 1609 E. Main St Fredericksburg TX 78624 (830) 997-5693

#### **Gonzales County**

Gonzales Processing 3187 North US Highway 183 Gonzales TX 78929 (830) 672-2135

#### **Guadalupe County**

Penshorn's Meat Market, LLC 113 West San Antonio Street Marion TX 78124 830-420-2327

## **Hamilton County**

Hamilton Quality Meats 1205 South Rice Hamilton TX 76531 (251) 386-4646

#### **Hardin County**

**Kountze FFA Meats Lab** 1488 FM 1293 Kountz TX 77625 409-656-3685

#### **Harris County**

Harris County Farm 15437 Miller Road 1 Houston, TX 77049 (281) 797-8668

**Lillja Farm** 14602 Lillja Road Houston TX 77060

**Texas Farm Fresh Halal Meats** 13221 Old Richmond Road Houston, TX 77083 (281) 650-1366

Old Richmond Farm 13235 Old Richmond Road Houston, TX 77083 (281) 495-3099

Jimmy Jordan 4110 Hopper Houston, TX 77093

#### Cabrito's Garza

4519 Theiss Road Humble, TX 77338 (281) 443-8185

## Hira Halal Meats, Inc

19922 Bauer Hockley Tomball TX 77377 281 650-8628

#### Fisher Ham & Meat Co.

5023 Spring Cypress RoadSpring TX 77379 281-376-1645

## **Mercy Slaughter**

2755 Porter Katy TX 77493 (281) 391-0021

## **Going Custom Processing**

6813 East Wallisville Road Baytown TX 77521

## **Jackson Custom Slaughter**

and Deer Processing818 East WallisvilleRoadHighlands TX 77562

#### **Harrison County**

Caddo Packing Co.,Inc. 609 S. Washington Marshall, TX 75670 (903) 935-2211

#### **Haskell County**

**Tatum's Custom Meats** 1305 South 1st Haskell, TX 76521 (940) 864-3388

#### **Hays County**

# **Pullin's Processing**

950 Hugo Rd San Marcos TX 78666 830-832-3687

#### **Hidalgo County**

#### De la Garza Slaughter House

915 E. Freddy Gonzales Dr.Edinburg TX 78539 956-383-9018 Hidalgo

#### **Hill County**

## R & R Processing

164 HCR 2218 Aquilla TX 76622 (254) 694-2801

#### **Hopkins County**

#### Rail 19

8843 State Hwy 19 South Brashear TX 75420 903-485-8505

#### Hopkins Co.

158 Putman Sulfer Springs TX 75483 (903) 885-5241

#### **Houston County**

#### **Tyers Processing**

1300 North 6th St. Crockett, TX 75835 (936) 544-7463

## **Howard County**

**Hull's Meat Co.** 500 North Birdwell Lane Big Spring TX 79720 432-267-7781

#### **Hunt County**

**Oba Farms**336 Miles Lane
Greenville, TX 7541
(469) 450-0556

#### **Irion County**

Nicholson's Meat Co. 207 Broadway Street Mertzon, TX 76950 (325) 835-2611

## **Jefferson County**

Nederland ISD 220 17th Street Nederland TX 77627 409-719-6751

## **Jim Hogg County**

Coronado's Processing 911 North Elm Hebbronville TX 78361 361-460-5522

Longhorn Meat Market & Game Processing 1102 N. Smith Hebbronville TX 78361 361-527-2170

#### Johnson Country

Rendon Meats 12314 Rendon RdBurleson TX 76028 (817) 478-9511

## **Hayes Farm**

7580 Bennett Lawson RdMansfield, TX 76063 (817) -477-1661

### **Kaufman County**

Kaufman Locker Plant 113 South Jefferson Kaufman, TX 75142 (972) 932-2717

**Valley Crest Inc** 9540 County Rd 344 Terrell TX 75161 (972) -400-2933

## **Kerr County**

Woodbury's Wild Game Processing 3286 Junction Highway Ingram TX 78025 (830) 367-5855

Hill Country Quality Meats 2920 Junction Hwy Kerrville TX 78028

#### **Lamar County**

Cobb's Meat Processing 362 CR 34550 Sumner, TX 75486 (903) 785-701;

## **Lamb County**

Earth Lockers 104 W Main St. Earth TX 79031 806-257-3393

Lopez Meat Market 1101 East Waylon Jennings Blvd. Littlefield TX 79339 806-385-5506

#### Lavaca County

The Meat Center 3035 FM 822 Edna TX 77957 (361) 782-3776

Janak's Packing Co., Inc. 3116 US Highway 90A WestHallettsville TX 77964 (361) 798-2985

Glen's Packing Company, Inc. 200 East 1st Street Hallettsville TX 77964 (361) 798-2601

Maeker Processing Plant 813 E 16th Street Shiner TX 77984 (361) 594-2172

## **Lee County**

**Dime Box Meat Market** 8362 FM 141 North Dime Box TX 77853 (979) 884-3535 **H. W. Doyle Processing** 1751 South Main Giddings TX 78942 (979) 542-3555

## **Leon County**

**Brothers Processing** 6200 FM 39N Jewett, TX 75846 (903) 626-5358

**Theiss Sausage Company** 13754 FM 39 South Normangee TX 77871

## **Liberty County**

**Reeds Meat Processing** 7187 FM 1010 Cleveland, TX 77327

Chubby's Packing Company 2201 Hwy 105 South Liberty TX 77575 (936)-298-2435

#### **Longview County**

Longview High School 3209 Airline Dr. Longview TX 75605 (903) 803-5950

#### **Lubbock County**

Slaton Packing Company 255 West GarzaSlaton TX 79364 806-828-5394

#### All Hale Meats, LLC

930 West 5th Wolfforth TX 79382 806-771-0340

## **Madison County**

## **Jarrett's Meat Service**

335 Crossroads Street Madisonville TX 77864

## **Matagorda County**

#### Jurek's Smokehouse

500 North J Avenue Markham Tx 77456 979-843-5211

#### Van Vleck High School

302 4th StreetVan Vleck TX 77482

## **McCulloch County**

## **Brady Coop Locker**

113 Elm Street Brady TX 78625 (325) 597-2240

#### Medina County

#### **Devine Meat Company**

1201 N. Windy Knoll Devine TX 78016 (830) 328-6328

#### **Mills County**

# Mills County Meat Company

Inc.

1119 Parker Goldthwaite, TX 76844 (325) 648-3111

## **Nueces County**

Jack Scarborough Banquette Hwy 44 Banquete TX 78380 361-387-7237

#### **Oldham County**

## Cal Farley's Boys Ranch

Boys Ranch TX 79701 806-533-2329

#### **Orange County**

#### **Nance Processing**

7297 Brewer Road Oranger TX 77630 409-745-3426

#### **Parker County**

#### **Old Plantation Meat**

2127 E Hwy 199 Springtown, TX 76082 (817) 677-2768

#### **Teels Custom Meats**

1820 N Main Weatherford, TX 76085 (817) 613-0095

#### **Hamilton Wholesale Meats**

1410 Clear Lake Rd Weatherford, TX 76086 (817) -596-8474

## Potter County

## **Chin Family Slaughter**

12601 N Western StAmarillo TX 79108 806-336-7948

#### **Rains County**

**Whispering Pines** 2556 FM 3274 Emory, TX 75440 (903) 473-3901

#### **Randall County**

**Arrow-Tip Farm LLC** 6000 FM 1258 Amarillo TX 79118 806-671-5278

#### **Real County**

Nucces Country Smokehouse 1029 S. Texas Hwy 55 Camp Wood TX 78833 830-597-4242

#### **Red River County**

**Detroit Processing** 105 West Garner Detroit TX 75436 903-674-6911

## San Jacinto County

Fleming's Wild Game Processing, Inc. 5680 Hwy 190 Point Blank TX 77364 936-377-4514

#### San Saba County

**Hibler Family Slaughter & Processing** 103 E. WallaceSan Saba, TX 76877 (325) 372-5195

#### **Somervell County**

Flint Canyon 1321 F.M. 56 N.Glen Rose, TX 76043 (817) 933-0571

#### **Titus County**

Mt.Pleasant Meat Processing 1232 Dove AvenueMt Pleasant TX 75455 (903) -572-9277

**Bishop's Meat Locker** 812 CR 1655Mt Pleasant, TX 75455 (903) 572-7353

Mt.Pleasant Meat Processing Co. 1232 Dove Avenue Mount Pleasant, TX 75455 (903) 572-9277

#### **Tom Green County**

Lake Gardens Processing 8325 US Highway 87 North San Angelo , TX 76901 (325) 655-2559

## **Upshur County**

Butcher Block 2446 FM 852 Gilmer TX 75644 (903) -790-7382

#### **Uvalde County**

Uvalde Meat Processing 508 South Wood St. Uvalde TX 78801 (830) 278-6247

# **Mercantile Company Meat Plant**

Cypress at Johnson Utopia TX 78884 (830) 966-2222

## **Victoria County**

Country Slaughter House 3857 Burroughsville Road Victoria TX 77905 (361) 573-9043

# Harwell's Custom Processing 7804 FM 236

Victoria TX 77905 (361) 575-5120

## **Walker Country**

**Sam Houston Meat Lab** 2400 Avenue Mhuntsville, TX 77341 936-294-1235

#### **Waller County**

Oaks of Mamre Farm 27959 Mellman Road Hempstead TX 77445

## **Washington County**

Burton Meat Processing 1120 Navasota Street Burton TX 77835 (979) 289-4022

#### **Wheeler County**

Shamrock Slaughter 6400 US Highway 83 Shamrock TX 79079 806-256-3241

#### Williamson County

## Florence High School Meat Lab 401 County Road 970 Florence, TX 76527 (254) 793-2495

#### **Wilson County**

**Wiatrek's Processing** 200 W. Menchaca Rd. Poth TX 78147 (830) 484-2888

#### **Zapata County**

Lalo & Lalo Processing 2114 Jackson St. Zapapta TX 78076 956-285-5583

# Notes

