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UNIVERSITY OF TENNESSEE
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Evaluation of the effects of the closure of Equine slaughter facilities

Taylor R. Bonar

4/30/2012

This study was conducted with the intent to educate and inform both the public and our elected leaders on the subject of equine welfare as it involves the slaughter industry, with emphasis on how the state of Tennessee is affected and the effects since the slaughterhouses were closed. This study is broken into several parts covering the issue at large, arguments both in favor and against the opening of domestic slaughterhouses are presented, and what the state of Tennessee has to gain or lose from their opening is discussed.

Introduction:

The horse industry today is at a critical turning point. For many years there have been debates on the various merits, drawbacks, and even the very morality of processing equine (including horses, ponies, mules, and burros) as meat for human consumption. In 2007, the last three operating plants in the United States were closed in Illinois and Texas after years of legal struggles, thus ending the processing of equine within United States borders. Since that time the U.S. economy sharply declined, resulting in numerous adverse effects to equine welfare. The intention of this report is to examine how the closure of the slaughter facilities affected the overall state of equine welfare and examine other potential solutions to the unwanted horse issue at the heart of the debate. This study will also attempt to determine what effects these events have in the state of Tennessee by extrapolating the effects of what has occurred in other states. While there are many facets to this argument that rely on philosophical and moral reasons to be for or against horse slaughter, this study focuses on the facts about the current state of equine welfare.

The cessation of domestic slaughter rekindled the debate in the public eye on horse slaughter. The Government Accountability Office (GAO) released a report in 2008 detailing the unintended consequences of the closure of the slaughterhouses in Texas and Illinois in 2007. Prior to that time the United States Department of Agriculture's (USDA) funding for inspection of these facilities had been cut off by Congressional action, but the slaughterhouses continued to operate under a "fee-for-service" program through which they paid the USDA to have inspectors at their facilities. After years of legal battles from animal rights groups and other legal challenges, the respective state courts ordered the facilities' closure. Since then Congress has ended the fee-for-service program and as of this time there are no active slaughterhouses in the United States. The GAO also gathered statistics about the number of animals processed yearly in the US and noted an overall decline in the numbers sent to slaughter since 1990 (fig. 1)[1]. However, this data also shows an increasing number in the 10 years prior to their closing, going from a low of 47,134 in 2000 to 104,899 in 2006, the last full year of facilities' operations. That number is comparable to the number of equines processed in the mid 1990's.

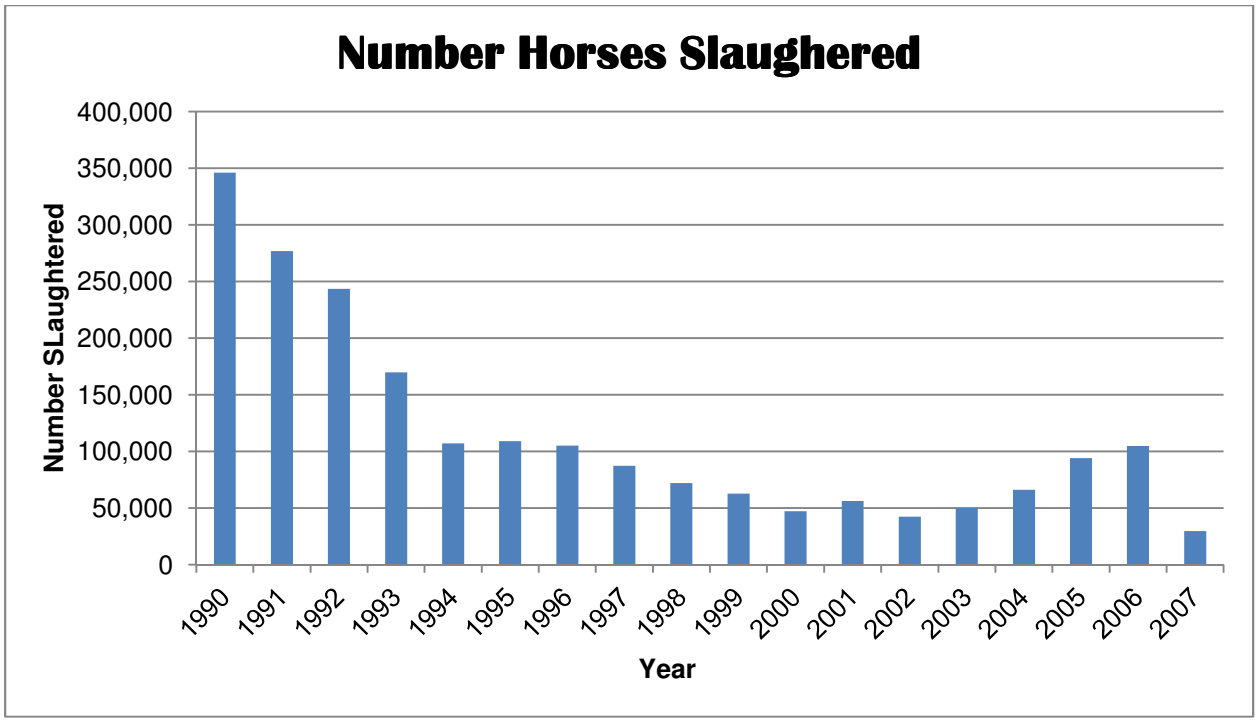

Figure 1

Source: GAO report GAO-11-228

The state of Equine Welfare:

The national equine population has been increasing dramatically over the last two decades (fig. 2), and the state of Tennessee has seen similar growth trends (fig. 3)[2]. With increasing population there can be expected a basal rate of abuse and neglect which for the purposes of this study is measured by the rate of claims found to have probable cause by the Tennessee Agricultural Extension Office (TAEO). This means that an investigator sent to respond to a claim or tip sent to TAEO determined there was sufficient evidence to warrant further investigation, but this does not mean further action was taken. TAEO has statistics from the last decade on the numbers of equine related cases reported but some cases are handled by local law enforcement agencies and not reported to TAEO. It is therefore extremely difficult to obtain the precise number of equine that are abused and neglected. However, it can be noted that the number of abused and neglected equine is on the rise given the data available (fig 4)[3]. This could be because there has been an increased awareness of the issue of animal cruelty in general over the last decade thanks to increasing social communication, better reporting methods, and increased

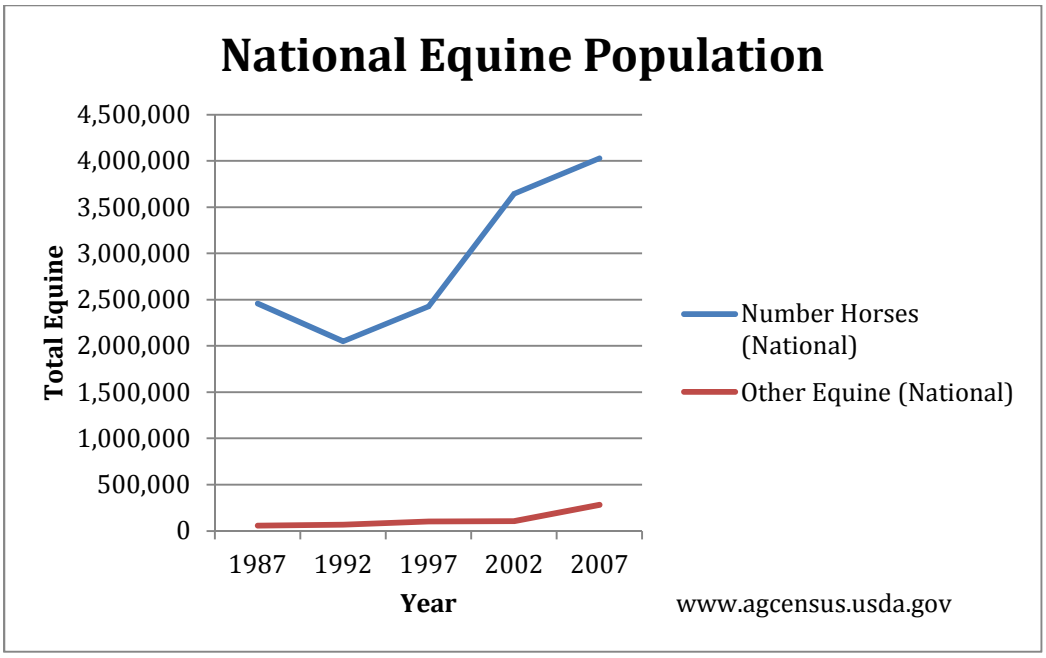

Figure 2

Source: USDA Agriculture Census

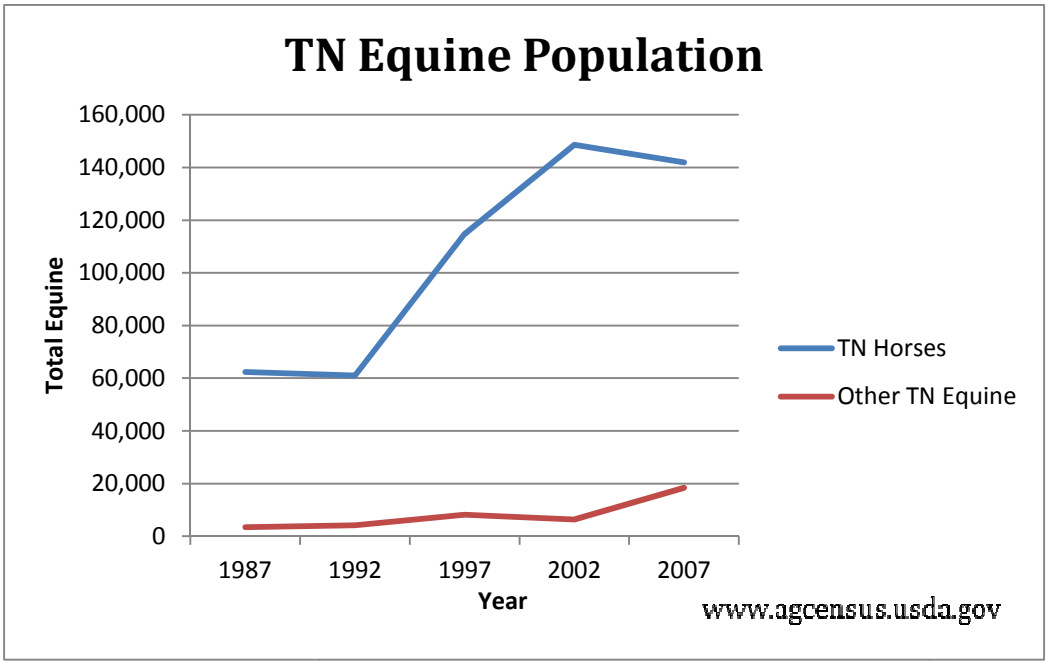

Figure 3

Source: USDA Agriculture Census

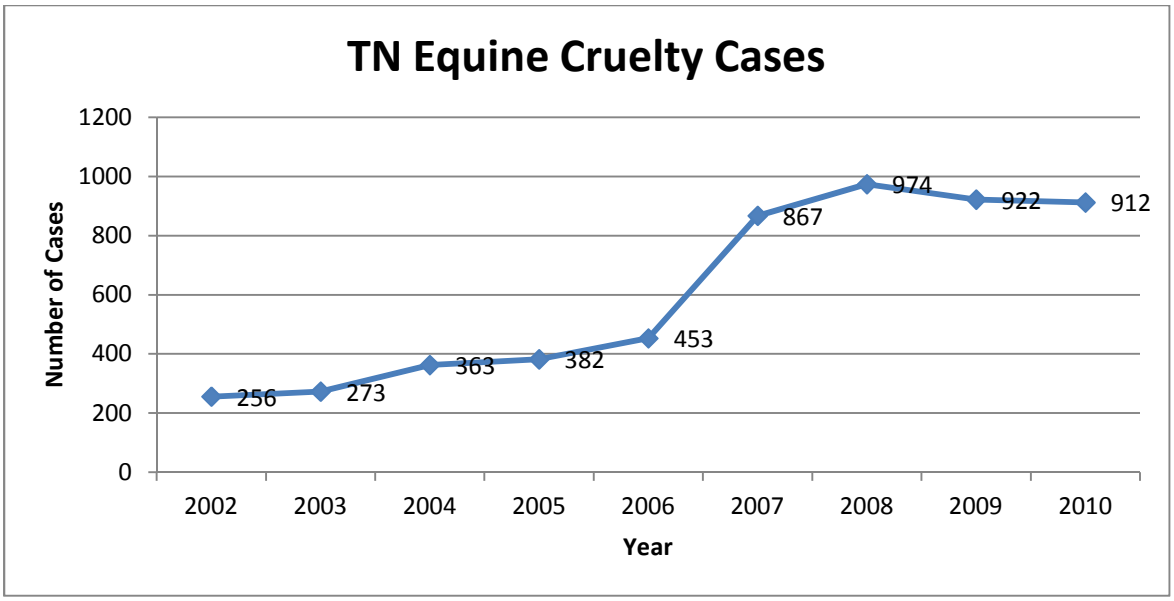

Figure 4

Source: UT Agriculture Extension Services

activity of animal rights groups[4]. There is still a significant increase nonetheless in the years 2006-2008, going from 382 in 2006 to 453 in 2007 and nearly doubling to 867 in 2008, approximately one year after the slaughterhouses closed. This is also the time frame in which the national economy saw its worst decline since the Great Depression of the 1930s and with it the loss of thousands of Tennessee jobs and millions in personal income. The AVMA estimates it costs about $1825-$2300 per year per horse for basic maintenance including food and other related expenses but not including the costs of veterinary care, which can run hundreds of dollars per visit, or farrier care[5]. With the loss of discretionary income, notes one writer in the 2008 forum hosted by the USDA on the issue of unwanted horses, many people simply abandoned their animals in fields or let them loose to fend for themselves, lacking affordable alternative choices. The price of feeding horses has also been increasing steadily making it even more expensive for owners to keep and maintain their animals[6]. The Unwanted Horse Coalition (UHC) published a survey in 2009 polling thousands of people with direct and indirect ties to the equine industry, including horse breeders, owners, rescue organizations, veterinarians, investors, and other stakeholders. They found that the rescue groups also note a significant increase in the numbers of horses they are handling for abuse and neglect since the economic downturn but are reluctant to say the closure of the slaughterhouses have had an impact[7].

The case for slaughter:

Much of the debate is about what to do with unwanted horses. The American Veterinary Medicine Association (AVMA) defines an unwanted horse as "a horse that has become unwanted by its owner…[because the] owner cannot afford to keep or feed [the horse]… It may be a horse with an injury, lameness, or injury for which the owner is unwilling or unable to provide care". Many of these animals are partially or fully trained but become unwanted by their owners due to failure to meet expectations, injury, changing needs, or economic hardship. The UHC survey, which polled several thousand people with direct and indirect ties to the equine industry, found that over 80% of respondents blame the costs of owning a horse as the most common reason for that horse becoming unwanted. In addition, the same survey found the high cost of euthanasia and the closure of the slaughter facilities among the top contributors to the unwanted horse problem. Slaughter facilities will pay a set price for healthy animals often through auctions but sometimes through direct sale to the slaughterer. Since the facilities closed the number of equine sent to slaughter abroad in Mexico and Canada where it is still legal increased proportionately to the numbers no longer being processed in the US[1](figure 5). The number of animals processed in Canada alone doubled by the end of 2007, the year the slaughterhouses closed in increased 40% more in 2008. The number of horses exported to Mexico tripled the same year[8]. These facts show that even without domestic slaughter houses in the United States, the process itself has not stopped or even slowed down.

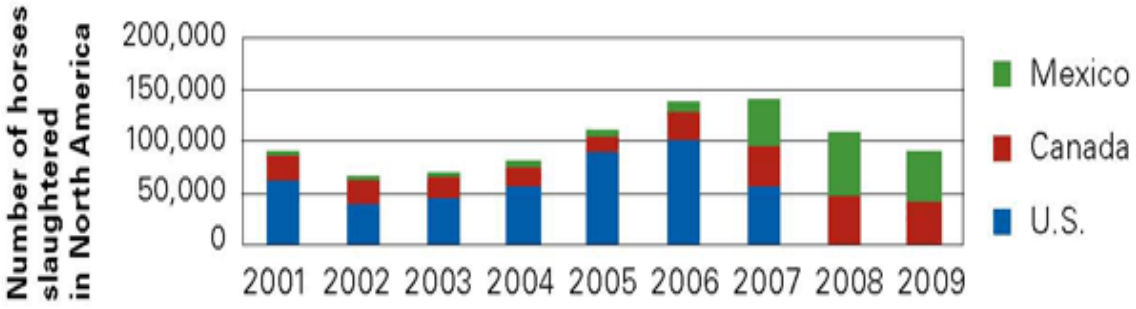

Figure 5

Source: AVMA

Many opponents argue that the slaughter methods used are inherently inhumane. The American Veterinary Medical Association approves of three methods for humane euthanasia in equine: barbiturate anesthesia overdose, gunshot (to the head), and

penetrating captive bolt[5]. All methods that are approved must induce immediate unconsciousness of the animal, and when properly performed are fast, effective, and have minimal stress for the animal[4]. The USDA only approves the captive bolt penetration method for slaughter of animals to be used for human consumption and rigorously enforces these rules. These are the same protocols followed by federally licensed plants in Mexico as well as Mexican slaughterhouses operating under European Union guidelines[9]. With a large number of unwanted equine, an immediate demand abroad for a wholesome and clean product, and existing protocols and laws to meet that demand it is economically conducive, even beneficial, to have such facilities operated within the United States.

For horse owners, slaughterhouses offer an economic incentive to maintain only the most productive animals. The most common disposal method for unwanted horses is sale or donation[7]. With the overabundance of equine in the marketplace, selling of horses is a limited option for low value animals, which experienced an 8-21% decrease in value after the closure of the slaughterhouses[1]. Euthanasia therefore becomes a viable option for these animals. However the cost of the actual euthanasia is increasing, and especially the carcass disposal methods can be quite high (figure 6)[4]. With roughly 80% of horse owners having fewer than 10 horses and the mean being about 4 this translates to a significant cost to dispose of unwanted animals. Many owners cite an average range of $250-$485 and going as high as $1200 per animal for disposal, and with just 4 animals this can cost the typical owner thousands of dollars[7]. With a functional slaughterhouse close by, owners might receive a reasonable price for the animal depending on its body weight and health[1].

Disposal Method	Estimated Cost
Burial	$250-$500
Landfill	$80-$500
Rendering plant	$75-$250
Incineration	$800-$1600
Composting	Variable

Figure 6

Source: USDA Forum "The Unwanted Horse Issue: What Now?"

The Bureau of Land Management (BLM) stands to gain the most immediate benefit from domestic slaughterhouses, as it has a large surplus of animals that are healthy but unadoptable due to behavioral problems and a lack of willing buyers. With the passage of the Wild Free-Roaming Horses and Burros Act of 1971, the BLM was ordered to maintain wild equine herds in several herding areas and remove excess animals to prevent overpopulation and range damage to western states' lands. Another recent GAO (released 2008) report revealed that the BLM is facing many problems maintaining its mission. In the report, the GAO states that since 2001 the BLM has removed 74,000 animals from the ranges in its jurisdiction, yet it has only adopted out or sold 46,400 with the remaining animals living in long-term holding pens. In addition, there were 36% fewer adoptions in 2007 than in the 1990's, and the portion of the BLM budget designated to maintain non-adopted but captured equine rose from 46% in 2000 to 67% of the total operating budget in 2007, with an estimated 74% of the budget being used to maintain captured animals in 2008. The BLM is not in compliance with its 1971 objectives to remove excess animals and while the wild population continues to grow, there are fewer buyers for these equine[10]. This is an unsustainable scenario, but the BLM has few other options for dealing with these excess horses. Even though it can sell horses "without limitation", it cannot sell to slaughterhouses due to potential negative backlash from the public and legal bans on such transactions. The BLM currently maintains over 31,000 animals that were removed to protect the public lands, but has nowhere to place them and continues to devote more and more money to maintaining these animals[10].

There is also much concern for the other options available for unwanted equine disposal. The first two mentioned in figure 6 pose problems for groundwater contamination by rotting carcasses. Since humane euthanasia by lethal injection involves highly toxic and water-soluble compounds, there is serious threat of polluting groundwater with barbiturates. Burial is by far the simplest method to execute and is therefore the most common disposal method. However, many states and counties outlaw burial of animals in particular areas above weight ranges far below the average weight of horses[8] for the reason that they are near water sources for human needs. Landfills often are far away from such sources in order to comply with their own set of regulations, yet they too cannot

handle a large influx of potentially toxic material. They are also being filled to capacity at many locations around the country, and alternative sites are becoming more difficult to build and maintain. In addition, most alternative disposal solutions do not provide adequate disease safeguards to prevent disease spread and therefore are risky[11].

The other mentioned methods also have their share of problems. Composting seems to be a great idea as it can reduce the harmful pathogens present in the carcass as well as generate a useful on-farm product in the form of fertilizer for pastures or crops. Unfortunately, most horse owners are not well educated in proper composting techniques, often simply burying the body under manure and not having adequate runoff control systems and monitoring, making this option for most people less environmentally friendly than simply burying the carcass. Horse slaughter houses must have protocols to control waste runoff and contain any potential contaminants, and these protocols are monitored internally as well as by the USDA. Of the final methods mentioned, rendering and incineration, the primary drawback to their potential is the cost of use. Incinerators capable of handling a large body like a horse are not always within reasonable distance of owners, and they are very expensive to build, maintain, and operate. Some rendering plants do not even accept dead animals, thus their transport alive to these facilities is necessary[11].

Finally, there are other reasons that slaughter is still a viable option for unwanted horse control. There are other reasons for the decline in overall horse slaughter noted in the GAO report. According to a writer representing the Unwanted Horse Coalition at the 2008 USDA forum on unwanted equine, part of the explanation for the rapid decline in the number of horses sent to slaughter was the fact that in the mid 1980's the Internal Revenue Service changed tax codes allowing horses' value to be depreciated, which could be written off to save the owners money on their income taxes. This resulted in fewer horses bred and registered as a result of many investors leaving the equine industry[4]. With fewer horses bred, there are fewer horses around years later and therefore a drop in the overall number of horses susceptible to becoming unwanted. As the horse population began to grow again in the mid-1990's (figure 2), there were naturally more horses available to be sent to slaughter, leading to an increase in the total number of horses slaughtered in the early 2000's.

This information suggests that the most economically sensible tool to help alleviate the surplus horse problem is to reinstate domestic horse slaughter. It could reduce the burden of carcass disposal costs for small horse operation owners. Other carcass disposal options each have various environmental concerns as well as high costs associated with their utilization, putting them out of reach of many cash strapped owners.

The case against Slaughter:

Horses are often viewed as companion animals that are separate and unique from any other kept in the United States. They have special care requirements, being very large animals that need lots of space to run and graze. They also require regular hoof care by highly trained farriers and veterinary care that also requires very specialized training. Horses are not considered livestock in many states[18], which legally separates them from the rules of humane treatment that animals such as cattle, poultry, and swine fall under and puts them in the same category as pets such as cats, dogs, and exotic animals[13]. The United States has no industry in raising equines with specific intent for slaughter, and equines that are bred are almost exclusively intended to be trained for a multitude of purposes such as racing, showing, work in law enforcement and agriculture, and as pleasure animals for the majority of owners[10]. All of these purposes require a very strong bond between human and horse, resulting in a precise coordinated effort to achieve a stated task. Horses are not raised as food animals in the United States; they are often viewed as an important cultural symbol deserving of special recognition and respect for their immeasurable impact on our history and welfare, both past and present.

The unwanted horse issue stems largely from owner neglect and a lack of education about the needs and commitment of owning a horse. It can cost $1825-$2300 per year per horse to care for them, not including farrier or veterinary care (which involves checkups, vaccinations, disease treatment when necessary, and other associated costs)[4]. This is a significant cost to bear, and when the owner does not own their own land for keeping the horse, they must often pay additional costs to board their animals on another's property. With an average lifespan of 30+ years, the cost over the life of each horse can be well above $55,000 without any major health problems and treatment. With horses being sold at auction in some places for as little as $10-$20[6], it can be deceptively cheap to obtain several

animals with little regard to future costs. If intact males are left unattended with females, especially during the summer breeding months, one can very quickly accumulate a large number of animals as well. The primary factor cited in the UHC survey for animals being unwanted was being unable to afford them, and with these numbers to back them up it is easy to see the origins of the problem of unwanted horses. Slaughter facilities, some argue, would only allow irresponsible owners to cut their losses and even gain a small profit, while providing an incentive to breed more animals.

A significant problem is that many animals that go to slaughter are not qualified to be processed for human consumption. One of the most common violations that exclude equines from slaughter is the presence of drug residues from commonly administered medications. The FDA forbids the use of animals in slaughter for human consumption (and in some cases any animal's food) that have ever been treated with such common medications as phenylbutazone (commonly called "Bute"), ivermectin, pyrantel tartrate, nitrofuranzone, and clenbuterol[12]. These drugs, and many more, are deemed extremely toxic to humans and other animals in even small doses. There are also no established withdrawal periods for the above mentioned drugs for horses intended for slaughter, so all animals must have completed health records before processing. Without accurate health records it is impossible to guarantee the end product of horse slaughter is safe for human consumption. These issues make a safe wholesome product difficult to obtain.

The safe transportation and health of animals going to slaughter is also questionable. Federal regulations state that transports for equine going to slaughter are required to have: separate groups for stallions or aggressive animals; access to adequate food, water, and rest at least 6 hours prior to transport ; not be confined more than 24 hours (28 in certain circumstances) without the above; and have adequate floor space on a single tier trailer[13]. They must also be able to stand and walk unassisted onto and off of the trailer. The 2011 GAO report noted that many owner shipping certificates that are returned from foreign plants and processors, which verify the animals were humanely transported in compliance with federal regulations, were returned incomplete, with false information, or sometimes not at all. It is therefore feasible that some animals in the system are unqualified to be transported or sick with a potentially dangerous disease for humans. Without completed shipper certificates, it is impossible to verify that all the required conditions are met. In a

study performed in Australia on equines processed at an abattoir it was found that while 60% of horses sent to slaughter were less than 7 years old, over 81% had overgrown and untrimmed hooves[14], which can make them unfit for transport due to being unable to stand or balance themselves. Another study performed in the European Union, which observed equine destined for slaughter at one location then re-examined them upon arrival at their final destination, found that only about 5% of the transports used were in compliance with humane transport laws at the start, and none were in compliance at the final destination. In addition, the study found that 37% of arriving horses had lamenesses or other injury which would deem them unfit for transport which represents a two-fold increase from the beginning. Of all horses observed arriving at the slaughterhouse, the study determined that 28% had at least one acute injury which would disqualify them for such transport[15]. Being confined in a small space such as a trailer for extended time periods without food or water, being unable to balance, and not being used to such treatment is claimed by some to be inherently inhumane despite the attempts of officials to try to reach a compromise for the best interests of the horse.

The arguments that slaughter will end mistreatment of animals and benefit the horse population at large are thought by many to be utterly false. California passed legislation known as Prop 6 in 1998 to ban the sale or possession with intent of sale of equines or horsemeat for human consumption[16]. While it was noted in the months before the vote that only a small percentage of California horses at that time were sent to slaughter, opponents of the legislation argued it would only result in an increase in equine abuse and neglect[17]. Subsequent research found, however, that after the legislation was passed, the number of abused equines actually decreased by 34% the next year. A similar decrease was also observed in Illinois when the Cavel International horse processing plant burned down and was closed for two years[18]. This is likely because any animals that would have gone to slaughter or were at risk for mistreatment were probably sold to out of state buyers, and the fate of those animals was therefore unknown. It is a fact that only about 1-2% of all equines in the United States were sent to slaughter each year in the U.S. until 2007, whereas 10-12% of all horses died otherwise or were euthanised[19]. For such a small segment of the population it may be unnecessary to even have domestic slaughter facilities, especially considering the overall number of horses sent to slaughter domestically was on

the decline in the roughly 20 year span noted in the GAO report (figure 1). Opponents therefore claim this is not a necessary process, that it has not and will not prevent owner abuse and neglect, and will only continue to harm the state of equine welfare if it is allowed to happen again in the United States.

Tennessee's Stake and Concluding Thoughts:

There are several ways that Tennessee has been affected by the unwanted horse issue. It is true that the numbers of abuse and neglect cases are on the rise, the overall market value of horses is down, and there are many opinions as to what to do about the problem. Using the data from the Unwanted Horse Forum documents describing the percentage of the horse population sent to slaughter each year and the USDA agriculture census on Tennessee's current equine population, it can be estimated that the number of equines from this state alone going to slaughter each year would be between 1600 and 3200. This number is very small compared to the population at large and would likely be greatly supplemented by other states sending their unwanted equines intended for slaughter. It cannot be precisely determined exactly how many this would be due to the lack of data on the current number being sent to slaughter abroad, as well as the fact that many equines trade owners several times before arriving at slaughter[6]. Using prior trends as an indicator, this number could potentially be in the tens of thousands with significant impact on the state economy in terms of revenue generated. As of this writing the Tennessee Legislature is debating in the House Bill 3619 and Senate Bill 3461, which would encourage and permit the establishment of an equine slaughterhouse[20]. Similar measures have been introduced in the past, but none have yet passed.

There are also other figures to consider. Recall that in figure 4 there were over 900 equine cruelty cases in 2010, the latest year for which data is available. Upon further investigation, many of these cases turn out to not require any action due to insufficient evidence of criminal neglect and abuse. Further dissection of the numbers show that the actual number of cruelty cases may be much lower than it first appears (figure 7). The cases for which further action was deemed necessary are termed "probable cause", but this does not guarantee that further action was taken either because of owner compliance or another organization assuming jurisdiction over the prosecution process. These figures

include all animal cruelty cases. Figure 8 shows that the percentage of cases involving only equine has remained fairly consistent, though there is still an increase in recent years. They also indicate equines are disproportionately represented in Tennessee's overall animal abuse problem.

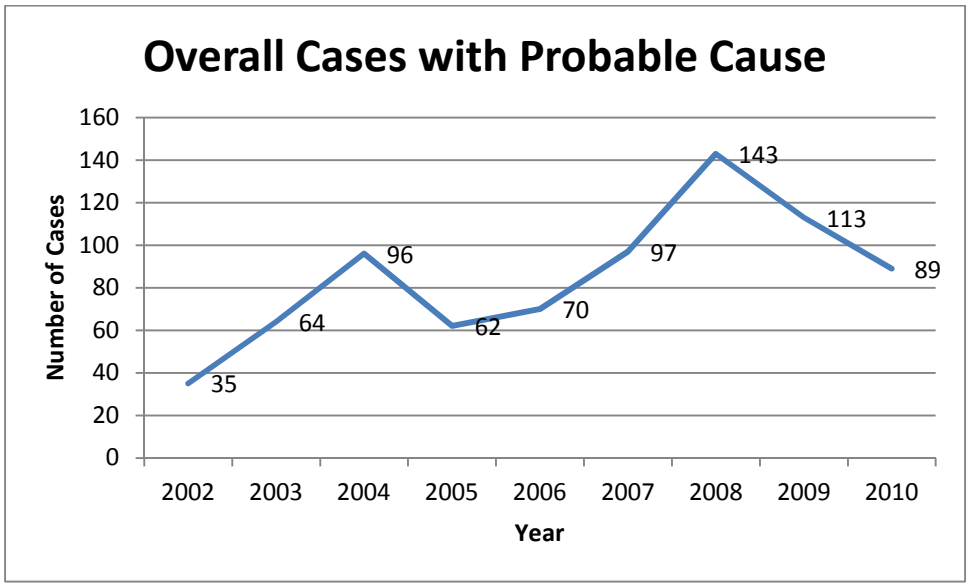

Figure 7

Source: UT Agriculture Extension Services

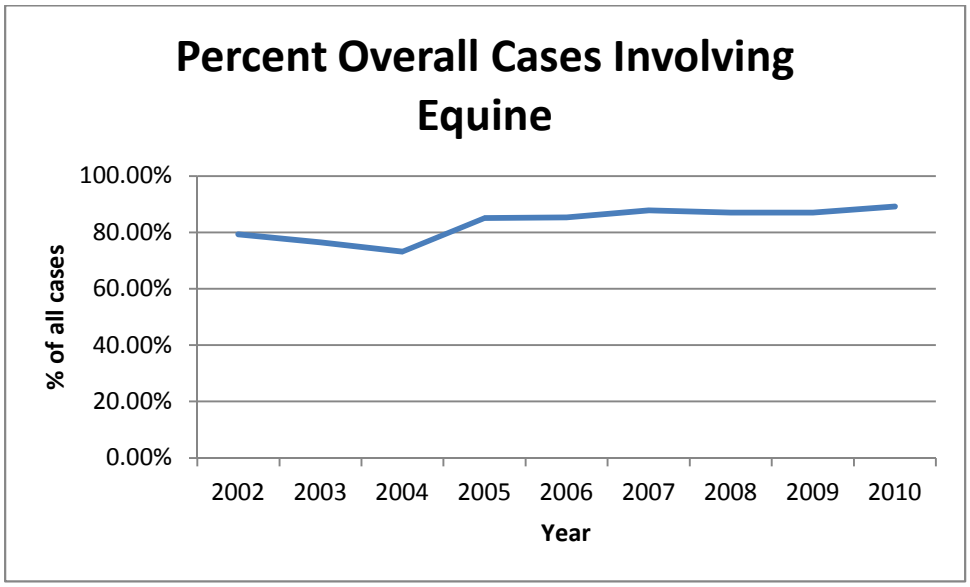

Figure 8

Source: UT Agriculture Extension Services

The trend seen in figure 7 is the most important one to consider when looking at the unwanted horse issue. It was noted in both the GAO report and the UHC survey that the downturn in the economy was believed to be the primary cause of the surplus unwanted horse population. The peaks in both 2004 and 2008 correspond with the economic downturns. The current trends in equine abuse and neglect reflect a delayed effect of the poor economy taking time to affect the personal lives of many horse owners. Subsequent dips in the overall number of actual cruelty cases follow closely with improving economic health. Owners unable to care for horses after purchase were forced out of the buyers' market and those unable to keep their horses got rid of them or were included in the cruelty statistics. During the worst of the downturn, the number of cruelty cases was at an all-time high and, as economic conditions improved, people started taking care of their animals again, resulting in the subsequent decrease in cases. As the economy becomes more favorable again this number should continue to decrease.

With this information in mind, it can be concluded the economy overall, not the closure of the slaughter facilities, contributed most to the increase in the numbers of abused and neglected equines. It is therefore reasonable to conclude further that opening slaughterhouses in Tennessee would not have a direct impact on the incidence rate of cruelty other than as a side effect of the income potentially generated directly improving the state economy. As mentioned before, a plant in Tennessee alone could bring in tens of thousands of animals, and at a value of a few hundred or thousand dollars a horse that translates to millions of dollars to directly stimulate the local economy through jobs created running and operating the plant as well as taxes from sales of horsemeat. The perception by the general public both inside and outside Tennessee must be considered, as there is much opposition to these facilities. Possible negative impressions could have significant and detrimental impacts on state industries including tourism and agriculture sales. It may, therefore, not be in Tennessee's interest to open an equine slaughter facility at this time until such perceptions change or other conditions arise more conducive to such action. As this is a dynamic issue it must be thoughtfully discussed in order to obtain the most desirable outcome for equine advocates, owners, and the welfare of equines.

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