

Horses For Food

Observation of slaughter at Iowa plant

M. H. McMillan, '44

AMID the innumerable industrial alterations to meet the current national emergency, the livestock industry has played a steadily increasing role. One of the branches of the industry which has recently risen to importance is the slaughter of horses for human consumption. The veterinarian's interest in this industry will be indicated by the various diseased conditions of the horse with which he comes in contact repeatedly and their relationship to the inspection of horse meat and meat-food products.

Nutritional Value

Prior to the current national meat shortage horse meat was used chiefly for dog food. However, today the public is recognizing more and more the nutritional value of horse meat for human consumption. Although many people still hesitate to endorse the practice of eating horse meat, it actually holds some advantages over beef, pork, or mutton. The muscle fibers are mostly finer than in beef and the glycogen is deposited in the muscle, making it sweeter than beef. Further, the fat is deposited in layers rather than being marbled as it is in beef. This renders the meat from thin horses practically as tender as that from fat ones. Few people can recognize the difference between beef and horse meat in a roast.

The present-day retail markets for fresh horse meat for human consumption are chiefly in the eastern part of the United States where other meats are scarce. Since horse meat does not require meat ration points, its popularity is increasing. Animals used for this industry originate from farms and ranches all over the United

States and parts of Canada. One example of an equine abattoir is the Davis Packing Company at Estherville, Iowa. This particular plant has been in operation since January, 1940, and is operating under the Federal Meat Inspection Service of the Department of Agriculture Food Distribution Administration. The Meat Inspection Act of Congress applies only to horses and congressional action would be required to include mules.

At present, the Davis plant is slaughtering horses at the rate of 70 to 75 per day. Their horses are purchased from many of the western states and parts of Canada in addition to all parts of Iowa. They are purchased at the rate of approximately 1 to 2 cents per pound. Since the economic importance of farm horses has been lowered in proportion to their decreased use it is a natural tendency for the farmer to send an injured horse to slaughter rather than attempting treatment, thus decreasing the practicing veterinarian's horse business.

Meat Inspection

Federal Meat Inspection regulations are enforced in the plant by an inspector in charge, who is a graduate veterinarian employed under the Food Distribution Administration. His numerous duties include: enforcing strict sanitation of the premises, checking the establishment employees daily for clean clothing as well as for communicable diseases, and carrying out regulation meat inspection. The inspector in charge at the Davis plant at Estherville is Dr. O. W. Anderson, to whom we are deeply grateful for much of the information included in this article.

The inspection and handling of horse meat and meat-food products is an enforcement of Regulation 29 of the Bureau of Animal Industry Order 211, revised. This regulation contains the following provisions in general:

1. Carcasses or parts of carcasses prepared for transportation or sale as articles of interstate or foreign commerce must be wholesome, free from disease, and fit for human consumption.

2. The slaughter of horses and preparation and handling of the meat and meat-food products thereof is conducted in an establishment where only horse meat is handled.

3. All horses shall be condemned if any of the following diseased conditions are found in either ante- or post-mortem inspection: strangles, glanders, influenza, purpura hemorrhagica, azoturia, forage poisoning (cerebrospinal meningitis), dourine, generalized osteoporosis, acute inflammatory lameness, extensive fistulous withers.

4. All horse meat or meat-food products are conspicuously labeled, using a six-sided stamp with light green ink in contrast to the round stamp and purple ink used on cattle, swine, sheep, and goat carcasses.

Wherever horse meat is retailed on the market, it must be conspicuously labeled and no other kinds of meat can be handled by that market.

Ante-mortem Inspection

Animals to be slaughtered are subjected to an ante-mortem inspection. They are examined in their pens at close range, both at rest and in motion, for the purpose of detecting communicable diseases such as: glanders, dourine, pneumonia, strangles, influenza, or any other disease which might render the meat unfit for human consumption. Those found to be only slightly infected may be killed as "U.S. suspects" subject to further inspection. Of the 40,020 horses subjected to an ante-mortem inspection during the fiscal year 1943, 39,807 were passed, 129 were killed as "U.S. suspects," and 84 were condemned. The reason for condemning the

84 on ante-mortem inspection was their moribund condition, which includes those horses found dead in the pens when inspected. Horses that are condemned on ante-mortem inspection are sent to the rendering plant.

The process of slaughtering horses follows closely the method for killing beef. They are stunned by directing a .22 cal. rifle bullet through the brain. The animals are then shackled by the hind legs and hoisted in the air to be bled from the cervical vessels. Skinning, removal of the head, hoofs, and tail, and subsequent evisceration are carried out similar to beef slaughter and the carcass is split longitudinally to be cooled.

Post-mortem

Each carcass and its parts are subjected to post-mortem inspection at the time of slaughter. As soon as the head is removed it is given a routine examination. The parotid, submaxillary, and sublingual lymph nodes are incised and examined for abscesses or lesions of an acute infection or septicemia. The nasal bone is removed and the nasal septum is examined for glanders lesions. The maxillary sinuses are examined for the presence of abscesses or other abnormalities. The masseter muscles are incised to note their general character and to indicate to the plant employees that the head has been inspected. Following the routine examination of the head, the cranium is opened and the brain is checked for any abnormalities and removed to be used for meat-food products. The pituitary glands are collected from the brains and used for medicinal extracts.

Conditions Observed

The carcass is viewed while being eviscerated and all the viscera are inspected by examining the organs and lymph nodes for evidence of lesions of influenza, glanders, pneumonia, infectious anemia, tumors (either benign or malignant), or any other diseases which would render the meat unfit for human consumption. Extensive fistulous withers causes con-

demnation of the carcass due to the probability of brucella infection. Almost all of the gray horses have melanotic deposits in the subscapular region. If these lesions are localized they are trimmed out and discarded, but if it is a generalized condition and found in the spleen and lymph nodes the entire carcass is condemned.

In the fiscal year 1943 there were 39,935 horses subjected to post-mortem inspection, of which 39,152 carcasses were passed and 783 condemned. Reasons for condemning these in their order of importance include: pneumonia and pleurisy, emaciation, melanosis, septicemia and pyemia, peritonitis and enteritis, tumors, injuries, nephritis, metritis, mastitis, uremia, dropical diseases, leukemia and pseudoleukemia, pregnancy and recent parturition, immaturity, contamination, arthritis and bone diseases, and icterus. Parts of carcasses may be condemned due to: tumors and abscesses, injuries, melanosis, arthritis and bone diseases. Condemned carcasses are denatured with crude carbolic acid and sent to the rendering plant to be used, after cooking under pressure, for fertilizer or other inedible products.

Disposition of Carcasses

Passed carcasses and parts are washed, branded, and placed in the cooler where the temperature range is from 28 to 32°F. After 12 to 24 hours in the cooler the carcass halves are quartered and shipped. Most of the meat from the Davis plant is sent to the eastern part of the United States for human consumption, but a portion of it is sent to their Topeka, Kan. plant where it is used to produce dog food. This dog food is being used by the Army for the K9 corps. The viscera are sent to a rendering plant where they are used in the production of tankage and fertilizer. The hides are tanned for the value of the leather and the hoofs are removed to be used for the production of glue.

With these factors in mind, the veterinarian's interest is established. This interest may be simply for informative reasons, or he may be feeding his favorite hunting dog U. S. Government inspected horse meat. Still, he may be associated with the

Food Distribution Administration of the Department of Agriculture. Regardless of his immediate interest, he cherishes a pride for his profession and is reassured of its importance in this as well as other branches of the food-producing industry.

An Encouragement For The Training Of More Veterinarians

Years ago, when the horse was a dominating factor in transportation and in farming, the veterinarian was popularly known as the "horse doctor," but with the development of the veterinarian's activities this term has lost significance. There is a greater need for his services with the food and fur-bearing animals, poultry and pets. Approximately 20 percent of the veterinarians of the United States are engaged in the inspection of food of animal origin destined for human use.

It is generally conceded that livestock is necessary to successful agriculture since domestic animals contribute in maintaining soil fertility, and are useful in converting cheaply grown crops into higher priced animal-food products. Nearly 3½ billion dollars are invested in livestock in the United States with more than 100 millions in each of the following states: Texas, Iowa, Illinois, Wisconsin, Minnesota, Ohio, New York, Missouri, Nebraska, Kansas, Indiana, Pennsylvania and California. In these states and Massachusetts are the majority of the veterinary colleges.

The age of the veterinarian is not the determining factor in veterinary medicine that it is in some other occupations. Based on a study of 1,568 practitioners, the average age of veterinarians was 43 years.

Many of the unsatisfactory blood samples received at Bang's testing laboratories can be prevented by rapid chilling of the blood after drawing. Immersing the blood tubes in ice water immediately after bleeding has been recommended as a routine procedure during warm weather. This is especially true in cases where delivery to the laboratory may be delayed.