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| 1 | 1 | People and Places | Malerie Strahm is the AGA Multimedia Coordinator |
| 2 | 1 | People and Places | The current Data Services Coordinator is Taylor Buckley |
| 3 | 1 | People and Places | Jake Renner is the current Member and Youth Activities Coordinator. |
| 4 | 1 | People and Places | The AGA office is located in Lincoln, Nebraska. |
| 5 | 1 | People and Places | The following is a list of the current AGA Board of Directors: John Carrel, Dan McCarty, Klint Sickler, Mark Covington, Dustin Aherin, Jeff Loveless, Lowell Rogers, Todd Bickett, Derek Martin, Randy Sienknecht, Leland Clark, Lori Maude, Tom Vehige, Andrea Murray, and Jeff Swanson |
| 6 | 1 | People and Places | The current AGA President is Dan McCarty. |
| 7 | 1 | People and Places | Megan Slater is currently the Executive Director of the AGA |
| 8 | 1 | People and Places | The current members of the AGA Executive Committee are: Dan McCarty, President; Klint Sickler, Vice President; John Carrel, Secretary, Derek Martin, Treasurer. |
| 9 | 1 | People and Places | The current AGJA Board of Directors include: Grace Vehige, Colton Ivers, Danielle Stock, Madalynn Welsh, Alexx Starr, Jacob Barwick, Cody Forbes, Cade Cameron, Brooke Nowack and Grady Hammer. |
| 10 | 1 | People and Places | Grace Vehige is the current AGJA President. |
| 11 | 1 | People and Places | The ex-officio for the AGJA Board of Directors is Grady Hammer. |
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| 12 | 1 | People and Places | Tom Strahm is the current AGA Director of Commercial Marketing. |
| 13 | 1 | People and Places | The current Junior Gelbvieh Youth Ambassador is William Welsh and the current Intermediate Gelbvieh Youth Ambassador is Grace Steenbergen. |
| 14 | 1 | People and Places | AGJA advisors are Andrea Murray, Lori Maude and Tom Vehige |
| 15 | 1 | People and Places | Will Fiske is the current Breed Growth Specialist. |
| 16 | 1 | People and Places | Rebecca Mettler is the current Gelbvieh World Editor. |
| 17 | 2 | Trivia | Hamburger meat from a single steer will make about 720 quarter pound hamburger patties. That's enough for a family of 4 to enjoy hamburgers each day for nearly 6 months. |
| 18 | 2 | Trivia | *During grazing season, a calf deposits more than 531 pounds of manure. This amount includes over 21 million worm eggs. |
| 19 | 2 | Trivia | Christopher Columbus was a famous explorer who brought cattle from Spain to the West Indies on his second voyage to America. |
| 20 | 2 | Trivia | The AGA website address is www.gelbvieh.org |
| 21 | 2 | Trivia | Mature cows have four compartments to their stomach. |
| 22 | 2 | Trivia | Dairy cattle can produce as much as 40 gallons per day of saliva. Saliva serves as an aid in swallowing feed or of a ruminated bolus. It also acts as a buffering agent to control the pH of the rumen. |
| 23 | 2 | Trivia | A calf is approximately 70% water at birth. |

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| | | | * Hides are one of the most important by-products of beef. Approximately 144 baseballs or 20 footballs or 18 volleyballs or 18 soccer balls or 12 baseball gloves, or 12 basketballs can be made from the hide of one cow. |
| 24 | 2 | Trivia | |
| 25 | 2 | Trivia | Romans were the first known persons to brand cattle. |
| 26 | 2 | Trivia | Hamburger got its name from Hamburg, Germany and was brought to the U.S. by German immigrants in the 1800's. |
| 27 | 2 | Trivia | The average American eats 156 burgers each year. |
| 28 | 2 | Trivia | The biggest burger in the world weighed 6,040 pounds and was cooked in Montana. |
| 29 | 2 | Trivia | One gallon of milk weighs 8.6 pounds. |
| 30 | 2 | Trivia | On average, a dairy cow produces 90 glasses of milk daily, depending on genetics, feeding practices, and weather. |
| 31 | 2 | Trivia | Scientists in Japan have extracted gasoline from cattle manure. The process yields 0.042 ounces of gasoline from 100 grams or .05 ounces of manure. |
| 32 | 2 | Trivia | The average cow has more than 40,000 jaw movements per day. |
| 33 | 2 | Trivia | The U.S. nickname Uncle Sam is related to the beef industry. During the War of 1812, a meat packer from New York named Sam Wilson, supplied beef packed into barrels, to the United States Army stamped with "U.S.". Many people in the town of Troy, NY thought the letters U.S. stood for Uncle Sam, Sam Wilsons nickname, but what he intended it to stand for was the United States. Soldiers then began referring to the beef as "Uncle Sam's" and the two ideas merged. Uncle Sam became a symbol for the United States of America and this story was officially adopted by Congress in 1961. |
| 34 | 3 | Statistics | In 2017, the average age of a beef producer was 58. |
| 35 | 5 | Statistics | U.S. commercial cattle live weight at slaughter in 2018 was 1,350 lbs. |
| 36 | 3 | Statistics | Cattle consume less than 2/10ths of 1% of all water used in the United States |
| 37 | 3 | Statistics | The cattle industry is a family business. Eighty percent of the cattle businesses have been in the same families for more than 25 years; 10 percent for more than 100 years. |
| 38 | 3 | Statistics | There are 1.4 million jobs attributed to the beef industry. |
| 39 | 3 | Statistics | While the United States has less than 10 percent of the world's cattle inventory, it produces nearly 25 percent of the world's beef supply according to 2002 USDA data. |
| 40 | 3 | Statistics | Traditionally, the two largest dairy states are California and Wisconsin |
| 41 | 3 | Statistics | The beef industry is the single largest segment of American agriculture, which is our nation's largest industry. |
| 42 | 3 | Statistics | The two largest (based on circulation) beef magazines in the United States are: Beef and Drivers. |

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| 43 | 3 | Statistics | The regions or states that have Gelbvieh associations as of 2018 are Colorado, Missouri, Iowa, Kansas, Kentucky, Mississippi, Montana, Nebraska, North Carolina, North Dakota, Ohio, Oklahoma, Oregon/Washington, South Dakota, Tennessee, Utah/Idaho, and Virginia. |
| 44 | 3 | Statistics | 26% of the earth's surface is used for livestock grazing. |
| 45 | 3 | Statistics | As of September 2019, the top ten states for AGA (adult) memberships were: Missouri, Kansas, Kentucky, Iowa, Tennessee, South Dakota, Nebraska, Colorado, Oklahoma, and North Carolina. |
| 46 | 3 | Statistics | As of September 2018, the top ten states for AGJA memberships were: Kansas, Missouri, Oklahoma, Nebraska, Iowa, Colorado, Texas, South Dakota, Kentucky, Mississippi. |
| 47 | 3 | Statistics | In the 2017-2018 year, the top five states of AGA active females are: Kansas, Missouri, Nebraska, South Dakota, North Dakota. |
| 48 | 3 | Statistics | The top five states for total animals registrations for the 2017-2018 fiscal year are: Kansas, Missouri, Nebraska, South Dakota, North Dakota |
| 49 | 3 | Statistics | In the 2017-2018 fiscal year, the total active animals represented in the annual herd assessment was 37,917. |
| 50 | 3 | Statistics | The average herd size for AGA members is 43.5 cows. |
| 51 | 3 | Statistics | In 2017, more than 50% of the total value of U.S. sales of cattle and calves comes from the top 5 states: Texas, Nebraska, Kansas, California, and Oklahoma. |
| 52 | 3 | Statistics | Barely 3% of the U.S. population is counted as farmers and ranchers, however, total jobs related to food production account for 17.4% of workers and 16.3% of our gross domestic product. |
| 53 | 3 | Statistics | Cattle numbers in the U.S. peaked in 1975 at 132 million head. |
| 54 | 3 | Statistics | The Holstein breed has the largest number of registered cattle in the United States. |
| 55 | 3 | Statistics | Agriculture and related industries are the largest private employer in the U.S. and cattle production in the largest segment of agriculture. Cattle production involves about 1.1 million family farms and ranches. |
| 56 | 4 | AGA Policy | Genetic defects can be classified as monitor, warning, or watch status by the AGA. |
| 57 | 4 | AGA Policy | ** All AI sires and Donor Dam must be tested for the following genetic conditions: Arthrogyrosis Multiplex (AM), Neuropathic Hydrocephalus (NH) and Osteopetrosis (OS), Developmental Duplication (DD). |
| 59 | 4 | AGA Policy | Any abnormalities in Gelbvieh cattle should be reported to the AGA using an Abnormal Calf Report. |
| 60 | 4 | AGA Policy | If a breeder changes the name on an animal, the herd prefix does not and cannot be changed; After progeny have been recorded to |

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| | | | a sire and/or dam, you cannot change the name of that sire and/or dam. |
| 61 | 4 | AGA Policy | When submitting calving information to the AGA, 3 requirements must be met to place calves in the same contemporary group. These are: birth within 90 days, same sex, same user-defined management group code. |
| 62 | 4 | AGA Policy | Information like birth weight, weaning weight, yearling weight and other information on cattle is submitted to the AGA to be processed. |
| 63 | 4 | AGA Policy | The American Gelbvieh Association allows only replication cell-cloned animals to be eligible for registration. |
| 64 | 4 | AGA Policy | As of December 2016, cell-donor animals must be tested with the Genomic Option #1 (GGP-HD) and for all monitored genetic conditions. |
| 65 | 4 | AGA Policy | The International Year Code system uses letters of the alphabet to indicate the year of an animal's birth. The letters I, O, Q, and V are omitted from the system. |
| 66 | 4 | AGA Policy | The International Year Codes for this year and the next three years are as follows: 2019--G, 2020—H, 2021-J, 2022-K |
| 67 | 4 | AGA Policy | Herd Assessments are paid annually by Gelbvieh breeders on breeding age females (13 months or older as of January 1). These assessments are due in the AGA office March 15th of each year. |
| 68 | 4 | AGA Policy | The AGA considers females with at least 81.6% Gelbvieh blood to be purebred. |
| 69 | 4 | AGA Policy | The AGA considers bulls with at least 81.6% Gelbvieh blood to be purebred. |
| 70 | 4 | AGA Policy | As a part of the AGA's total herd reporting system it is important that members report every calf, even if it didn't survive, so the dam's Lifetime Cow Summary will be complete and give the true picture of the dam's reproductive history. The calf's sex and birth date must be recorded. |
| 71 | 4 | AGA Policy | A.I. sires must be DNA typed (GGP-HD), parent verified, tested for all monitored genetic conditions, and have an A.I. Permit on file before any offspring can be registered, even if the A.I. Sire is used only within the owner's herd. |
| 72 | 4 | AGA Policy | Balancer is a registered trademark of the AGA that describes a registered hybrid composed of Gelbvieh genetics with Angus or Red Angus genetics. |
| 73 | 4 | AGA Policy | * The AGA adopted a mandatory Total Herd Reporting system in 2000. This system requires that all cows either record a calf or report a reproductive status code to the AGA each year. This applies to all AGA & AGJA members. |

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| 74 | 4 | AGA Policy | The Dam of Merit honors cows that have produced at least three calves with all weaning information reported to the AGA. A Dam of Distinction has met the same requirements but has produced eights calves or more. Furthermore, to be honored she must still meet the strict qualifications requiring breeders to place selection pressure on early puberty and conception, regular calving intervals, and above-average weaning weights. |
| 75 | 5 | AGA Fees | To register cattle with the AGA, individuals must have an active membership AND have paid annual Herd Assessment dues. |
| 76 | 5 | AGA Fees | AGA members receive a free subscription to Gelbvieh World magazine. |
| 77 | 5 | AGA Fees | The Herd Assessment rate is \$25.00, yearly, for females over 13 months of age, as of January 1 of each year. |
| 78 | 5 | AGA Fees | Animal transfers are free for AGA and AGJA members. The cost of an animal transfer for a non-member is \$20.00 per animal. |
| 79 | 5 | AGA Fees | A one-year subscription for Gelbvieh World is \$35.00. |
| 80 | 5 | AGA Fees | Members have 30 days to pay their bill before their account becomes locked. |
| 81 | 5 | AGA Fees | Dams that are not registered with the American Gelbvieh Association (Angus, Red Angus, Simmental, etc.) will be charged a \$25 herd assessment fee if a breeder would like to register the calves with the AGA. The calves must be sired by a registered Gelbvieh or Balancer bull. |
| 82 | 6 | AGA Registration | If an AGA member submits registrations or data using the paper form method, there is a \$2.00 cost per transaction per head. Using AGA's Online Registry System eliminates this fee. |
| 83 | 6 | AGA Registration | The AGA defines a breeder as the owner of the dam, at the time of conception, of the animal being registered. |
| 84 | 6 | AGA Registration | *An A.I. permit is required for all sires used in A.I. that were born after January 1, 1989. The cost is \$50.00. |
| 85 | 6 | AGA Registration | When registering cell-cloned animals, the suffix "ETN" shall be added to the names of offspring resulting from cloning or other advanced reproductive technology. |
| 86 | 6 | AGA Registration | * A Balancer is a registered animal with two registered parents and has 25-75 percent Gelbvieh and 25-75 percent Angus or Red Angus with only 1/8 of a Balancer's breed makeup being another breed or unknown. |
| 87 | 6 | AGA Registration | The Southern Balancer is a Gelbvieh heat tolerant composite with at least 25 percent Gelbvieh and 6.25-50 percent Bos indicus breeding. |
| 88 | 6 | AGA Registration | DigitalBeef is the computer software program available to Gelbvieh breeders to keep track of animal records and exchange data electronically with the AGA. |

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| 89 | 6 | AGA Registration | In order to change the name of an animal you have purchased you will need to get the permission of the person who registered it. |
| 90 | 6 | AGA Registration | Calf registration can be submitted to the AGA via traditional paper forms and AGA's Online Registry System |
| 91 | 6 | AGA Registration | *On the back of Registration Certificates is a transfer form that can be used as an affidavit to transfer ownership. Ownership can be transferred at any time. |
| 92 | 7 | AGA Membership | A herd prefix is a breeder's choice of 3 or 4 letters used to tattoo animals produced in his operation. |
| 93 | 7 | AGA Membership | To be considered an active AGA member, you must pay two items annually: your dues and your herd assessments. Lifetime AGA members don't pay dues each year but must pay herd assessments to be active. |
| 94 | 7 | AGA Membership | *The cost to reactivate a female taken off the Herd Assessment Inventory is \$25.00 for each year the cow has been off the inventory. For example, if a cow was left off the inventory for one year, the cost is \$25 to reactive her. |
| 95 | 7 | AGA Membership | The age requirement for membership in the AGJA is birth through 21, as of January 1, of the current year. |
| 96 | 7 | AGA Membership | In order to show cattle at an AGJA-sponsored regional or national show, a member must be 8 years old by January 1 of that year. |
| 97 | 7 | AGA Membership | An AGA membership fee is \$120 for the first year, and \$120 annually. This fee includes a subscription to the Gelbvieh World. |
| 98 | 8 | Organizations | MARC stands for Meat Animal Research Center. |
| 99 | 8 | Organizations | USDA refers to the United States Department of Agriculture. |
| 100 | 8 | Organizations | NCBA stands for National Cattlemen's Beef Association and it is a member organization representing U.S. beef producers. |
| 101 | 8 | Organizations | *The Cattlemen's Beef Promotion & Research Board funded a "muscle profiling" study that catalogued 39 traditionally underutilized chuck and round muscles. This research increased the value of chucks and rounds to beef processors. |
| 102 | 8 | Organizations | The proceeds from the \$1.00 per head Beef Check-off is used for beef promotion, research, consumer and industry information. These funds are administered by the Cattlemen's Beef Promotion & Research Board and the state beef councils. |
| 103 | 8 | Organizations | National Cattlemen's Beef Association is commonly referred to as NCBA |
| 104 | 8 | Organizations | R-CALF stands for the Ranchers and Cattlemen's Action Legal Fund. The national R-CALF headquarters is in Billings, Montana. |
| 105 | 8 | Organizations | YBIC stands for the Youth Beef Industry Congress. |
| 106 | 8 | Organizations | BIF stands for Beef Improvement Federation and was chartered in 1968. |
| 107 | 8 | Organizations | The primary purpose of the BIF is to develop procedures for evaluating breeding value of beef animals. |

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| 108 | 8 | Organizations | Cattle-Fax, located in Centennial, Colorado, is a market reporting organization that supplies information on market outlook and market inventory. |
| 109 | 8 | Organizations | The Federal Meat Grading Service was established in 1925. |
| 110 | 8 | Organizations | APHIS is the Animal and Plant Health Inspection Service. |
| 111 | 8 | Organizations | The headquarters for the National Cattleman's Beef Association (NCBA) is in Centennial, Colorado. |
| 112 | 8 | Organizations | The National Beef Cook-off is sponsored by the American National CattleWomen's Association. |
| 113 | 8 | Organizations | NCBA-PAC is the abbreviation for National Cattlemen's Beef Association - Political Action Committee and is the cattlemen's voice in Washington, D.C. |
| 114 | 8 | Organizations | CDC (Centers for Disease Control and Prevention), a federal agency headquartered in Atlanta, Georgia, plays a critical role in investigating and controlling disease outbreaks at home and abroad. |
| 115 | 8 | Organizations | The Beef Quality Assurance (BQA) program was created to bring beef producers together to produce safe, wholesome beef that provides a great beef experience every time. BQA recommends management guidelines to produce healthier beef products. |
| 116 | 8 | Organizations | The World Health Organization (WHO), the United Nations specialized agency for health, was established in 1948 to promote the highest possible level of health (physical, mental, and social well-being) to all people. WHO is governed by 192 Member States? |
| 117 | 8 | Organizations | The U.S. Meat Export Federation (USMEF) works to create new opportunities and develop existing international markets for U.S. beef, pork, and lamb. |
| 118 | 8 | Organizations | The Gelbvieh World magazine is a member of LPC, Livestock Publications Council. |
| 119 | 9 | Food Safety | Hazardous Analysis Critical Control Points (HACCP) was originally established in 1959 to ensure the safety of food for the astronauts in the NASA program. |
| 120 | 9 | Food Safety | *The seven principles of the Hazardous Analysis Critical Control Points (HACCP) are: to conduct a hazard analysis, identify critical control points, establish critical limits, monitor the critical control points, determine appropriate corrective actions, record keeping, and verification procedures. |
| 121 | 9 | Food Safety | Irradiation is the process of exposing food to a controlled amount of radiant energy to kill harmful bacteria, parasites, insects, and fungi. Irradiation increases shelf life, reduces spoilage, and removes insects from fruit. |
| 122 | 9 | Food Safety | The "Fight Bac!" campaign has four simple steps to food safety. 1. Wash hand and surfaces often. 2. Don't cross contaminate 3. Cook to proper temperatures. 4. Refrigerate promptly. |

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| 123 | 9 | Food Safety | * Irradiation was approved for use on beef products in 1997. Irradiation has proven effective in killing e-coli bacteria and other harmful pathogens in ground beef. |
| 124 | 9 | Food Safety | The three keys to eliminating the majority of food borne illnesses are: proper handling, storage and preparation. |
| 125 | 9 | Food Safety | Bacteria multiply rapidly at room temperature. Most food borne illness-causing bacteria do not grow well at refrigerator temperatures (below 40 degrees F). |
| 126 | 9 | Food Safety | According to the Centers for Disease Control and Prevention (CDC) the incidence of bacteria on meat products decreased significantly. The incidence of E. coli O157:H7 in ground beef samples tested by USDA declined 80% since 1999. |
| 127 | 10 | Animal Health | According to the Centers for Disease Control, Swine influenza viruses are not spread by food. You cannot get swine influenza from eating pork or pork products. Eating properly handled and cooked pork products is safe. |
| 128 | 10 | Animal Health | The term "scour" means persistent diarrhea. |
| 129 | 10 | Animal Health | The disorder characterized by gas distention of the rumen as seen on an animal's left side is bloat. |
| 130 | 10 | Animal Health | The condition "founder" or laminitis refers to inflammation of the hoofs internal connective tissue and can be caused by an animal eating too many carbohydrates such as grain, hay or lush spring pasture. Large and/or overweight animals are more susceptible to this condition. |
| 131 | 10 | Animal Health | * Bangs is the term cattlemen use for the disease Brucella abortus or brucellosis. |
| 132 | 10 | Animal Health | Both bulls and heifers need to be vaccinated for blackleg. |
| 133 | 10 | Animal Health | Diarrhea, or scours, is often caused by E coli bacteria. |
| 134 | 10 | Animal Health | Bovine Viral Diarrhea is abbreviated BVD. |
| 135 | 10 | Animal Health | *Persistently Infected (PI-BVD) cases can be identified through a diagnostic procedure that came online in 1999 after University of Nebraska pathologists discovered that PI animals could be detected via a skin sample taken from a calf's ear soon after birth. |
| 136 | 10 | Animal Health | ** The bacteria, clostridium chauvei, causes blackleg. |
| 137 | 10 | Animal Health | * Overeating disease is more properly known as Enterotoxemia. |
| 138 | 10 | Animal Health | * Infectious Bovine Rhinotracheitis is abbreviated IBR. |
| 139 | 10 | Animal Health | The mineral most often linked to grass tetany is Magnesium. |
| 140 | 10 | Animal Health | * Brucellosis, anaplasmosis, leptospirosis, BVD, IBR, and vibriosis can cause abortion in cattle. |
| 141 | 10 | Animal Health | The common name for IBR is red nose. |
| 142 | 10 | Animal Health | Ringworm is caused by a fungus and is transmittable from cattle to humans. |
| 143 | 10 | Animal Health | Lockjaw is the common name for tetanus. |
| 144 | 10 | Animal Health | Cattle Grubs are larvae of the Heel Fly. |

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| 145 | 10 | Animal Health | The average rectal temperature of beef cattle is 101.0-101.8 degrees F. |
| 146 | 10 | Animal Health | * "White Muscle Disease" is caused by a deficiency of vitamin E, selenium, or both. |
| 147 | 10 | Animal Health | * As a rule, cows that have retained placentas at calving also have more breeding problems. |
| 148 | 10 | Animal Health | ** Pinkeye is the common name for the disease "infectious bovine keratoconjunctivitis". |
| 149 | 10 | Animal Health | Warts are contagious to other calves. |
| 150 | 10 | Animal Health | * Most pieces of hardware ingested by cattle settle in the reticulum or second stomach. |
| 151 | 10 | Animal Health | Overeating, drinking too much milk, bacterial infection or viral infection are reasons for scours in calves. |
| 152 | 10 | Animal Health | Mastitis is the broad name used to describe udder infections or disease. |
| 153 | 10 | Animal Health | Within the first 30-60 minutes after calves are born, they should receive colostrum. |
| 154 | 10 | Animal Health | Scours and respiratory pneumonia are the two diseases that cause the greatest loss in young calves. |
| 155 | 10 | Animal Health | After the first 12 hours of life, a calf cannot absorb enough antibodies due to rapid changes in the digestive system. |
| 156 | 10 | Animal Health | When a cow is made to swallow a magnet, she is being treated for hardware disease. Hardware disease is when a beef animal swallows an item such as wire, nails, or other metal objects potentially causing injury to internal organs. |
| 157 | 10 | Animal Health | White blood cells help protect the body from disease and infection. |
| 158 | 10 | Animal Health | * Cows and heifers should be vaccinated for BVD at least 30-60 days before breeding. |
| 159 | 10 | Animal Health | * Scours in calves causes rapid dehydration, loss of essential body chemicals and the build-up of acid. |
| 160 | 10 | Animal Health | * Blue tongue is the viral disease that infects cells lining the blood vessels in the muzzle, lips, tongue, feet and skin, causing swelling and inflammation. BTV infection occurs in both wild and domestic ruminants/camelids from the bite of a Midge, which is similar to a Sand Fly. |
| 161 | 10 | Animal Health | The best age to dehorn a calf is from one day to 3 months. |
| 162 | 10 | Animal Health | * The three ways to diminish tissue blemishes resulting from intramuscular (IM) injections, especially clostridial 7-way vaccine are: 1) administer all clostridial bacterins subcutaneously in the neck region, 2) avoid repeat injections of clostridial bacterins, especially late in the feeding period, 3) avoid intramuscular injections of all injectable products whenever other "labeled" routes of administration are available. |

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| 163 | 10 | Animal Health | Heifers should be vaccinated for Brucellosis between 4-10 months of age and are given permanent identification with an official Brucellosis ear tag and ear tattoo. |
| 164 | 10 | Animal Health | A producer can improve injection-site quality by administering products in the neck or shoulder region, avoiding IM injections whenever other labeled routes are available. Products approved for subcutaneous injections should be administered using the ten |
| 165 | 10 | Animal Health | Minimum biosecurity measures include having visitors' livestock areas, pens, and barns unless it is necessary, parking vehicles on paved or concreted area away from production sites to avoid contact with dirt, mud, or manure, and to wash hands with soap a |
| 166 | 10 | Animal Health | Symptoms of serious diseases include sudden, unexplained death loss in the herd or flock, severe illness affecting a high percentage of animals, or large numbers of animals suddenly going off feed. |
| 167 | 10 | Animal Health | *Chronic Wasting Disease (CWD) is a brain disorder that kills deer and elk. CWD is one of several types of Transmissible Spongiform Encephalopathies (TSE). These slow-acting degenerative diseases attack the central nervous system, causing brain damage a |
| 168 | 10 | Animal Health | *West Nile Virus is spread by the bite of an infected mosquito. The virus affects the central nervous system and swelling of brain tissue. The virus can result in severe or fatal illness. West Nile has been shown to infect horses, cats, bats, chipmunks |
| 169 | 10 | Animal Health | *Johne's Disease comes from bacteria that infect the intestine, which leads to prolonged diarrhea, poor digestion, and excessive weight loss. Typically found in calves but doesn't become prevalent until cattle are 2-5 years of age. Johne's can spread through manure or milk. |
| 170 | 10 | Animal Health | Foot rot occurs mostly with adult cattle and becomes more prevalent during wet summer and fall months. Bacteria gain entrance through lesions on the lower part of the foot enters the lower part of the foot. Wet manure and mud can soften the skin between the toes |
| 171 | 10 | Animal Health | Bloat is a form of severe indigestion marked by a collection of gas in the rumen that the animal is unable to expel. Visual signs of bloated cattle include distension of the left side of the animal; discomfort as indicated by stomping of feet or kicking the belly |
| 172 | 10 | Animal Health | Grass Tetany is a disease of cattle and sheep, caused by a mineral imbalance (magnesium) while grazing lush pasture. Also known as wheat pasture poisoning, symptoms include uncoordinated gait, convulsions, coma, or death. |
| 173 | 11 | Reproduction | A cow is "bulling" when she tries to ride other cows or stands while cows try to ride her. |
| 174 | 11 | Reproduction | Estrus or heat is the period in which a female will partake in mating. |
| 175 | 11 | Reproduction | Another term for estrus is "heat". |

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| 176 | 11 | Reproduction | A cow in continuous heat due to cystic ovaries or other defects caused by hormonal imbalance is referred to as a "buller". |
| 177 | 11 | Reproduction | Estrous synchronization is the use of hormones to cause a group of cows to come into heat or estrus at the same time. |
| 178 | 11 | Reproduction | Synthetic prostaglandin (lutalyse) products can be used for heat synchronization or inducing abortion in beef cattle if they are pregnant. |
| 179 | 11 | Reproduction | Estrous synchronization with prostaglandin works only in cycling cows. |
| 180 | 11 | Reproduction | If you have an outstanding female and you want to have a herd like her as quickly as possible, you could use embryo transfer. |
| 181 | 11 | Reproduction | A donor cow provides the embryo for embryo transfers. Donors are typically flushed on Day 7 of a pregnancy. |
| 182 | 11 | Reproduction | A recipient cow receives an embryo and carries it through its development until the calf is born. A recipient cow will typically gestate an embryo transfer calf seven days less than average. |
| 183 | 11 | Reproduction | To artificially inseminate (A.I.) a female you need the following equipment: A.I. gun, semen, shoulder-length gloves, semen straw cutter, thermometer, thaw box or thermos with warm water, tweezers, paper towels, and lubricant. |
| 184 | 11 | Reproduction | Liquid Nitrogen is used in semen tanks to keep the semen frozen. |
| 185 | 11 | Reproduction | Semen tanks should be stored in a well-ventilated, but protected area to keep the tank dry and out of the sun. It's best to keep the tank on a pallet or on boards to keep it off the ground to prevent rust and corrosion. Weekly or monthly checks of the liquid nitrogen levels may be necessary in order to maintain the proper storage climate for the semen. |
| 186 | 11 | Reproduction | *University of Arizona – Tucson has developed a test to identify higher fertility bulls. This test identifies a unique protein marker in bovine semen called Fertility Associated Antigen (FAA). |
| 187 | 11 | Reproduction | Most Gelbvieh heifers are ready to breed between the ages of 12-14 months. |
| 188 | 11 | Reproduction | A barren cow is a sterile female. |
| 189 | 11 | Reproduction | An open cow should come into heat every 18-21 days. |
| 190 | 11 | Reproduction | The time span that a cow will accept a bull's services is approximately 6-14 hours. |
| 191 | 11 | Reproduction | When a breeder says a cow is "heavy" he means she is in the last trimester of her pregnancy. |
| 192 | 11 | Reproduction | A breeding soundness exam can be used to check a bull's live sperm count, motility, and sperm abnormalities as well as a bull's scrotal circumference and parts of the reproductive tract. |
| 193 | 11 | Reproduction | A mature bull can safely breed 25-35 cows. A yearling bull should be limited to 15-25 cows. |

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| 194 | 11 | Reproduction | Cryptorchid refers to male cattle with one or both testicles undescended. |
| 195 | 11 | Reproduction | When a vet says a cow is "safe-in-calf" it means she is pregnant. |
| 196 | 11 | Reproduction | Gestation length is defined as the period a female carries her calf in utero or the duration of pregnancy. Most exotic breeds have an average gestation length of approximately 287 days. |
| 197 | 11 | Reproduction | The sperm that fertilizes an ovum determines the sex of a calf through the contribution of an X or Y chromosome. A female has two X chromosomes, while a male has an X and a Y chromosome. |
| 198 | 11 | Reproduction | The sire determines the sex of the calf. |
| 199 | 11 | Reproduction | Chromosomes are present in the nucleus of each body cell and carry the hereditary material called genes. |
| 200 | 11 | Reproduction | All inherited characteristics are contained in the fertilized egg (embryo). |
| 201 | 11 | Reproduction | Relaxin is the hormone that acts to widen the birth canal before parturition. |
| 202 | 11 | Reproduction | ** Fimbria (infundibulum) is the thin membranous structure at the end of the oviduct, which partially covers the ovary. |
| 203 | 11 | Reproduction | A follicle is a structure on the ovary that is the source of the egg at ovulation. |
| 204 | 11 | Reproduction | The major function of the scrotum of a bull is to regulate temperature of the gonads or testicles. |
| 205 | 11 | Reproduction | First calf heifers generally have more difficulty calving than mature cows. |
| 206 | 11 | Reproduction | Testosterone is the hormone responsible for male behavior and sex drive. |
| 207 | 11 | Reproduction | Gomer is the term used for a bull that is used to detect heat but is incapable of settling cows. |
| 208 | 11 | Reproduction | Pelvic size and size of calf are primary factors that affect how easily a female can have a calf. |
| 209 | 11 | Reproduction | Underfeeding heifers during their first year of life will delay their first breeding. |
| 210 | 11 | Reproduction | * Selecting bulls with high calving ease & low birth weight EPDs for use as sires can reduce calving difficulty in heifers. |
| 211 | 11 | Reproduction | * About 12 hours after the end of standing heat ovulation occurs. |
| 212 | 11 | Reproduction | * Fertilization usually occurs in the oviduct of the cow's reproductive tract. |
| 213 | 11 | Reproduction | Parturition is the process of giving birth. |
| 214 | 12 | Animal Science | *Neuropathic Hydrocephalus (NH) is a lethal genetic defect. NH calves are born near term and have 25-35 pound birth weights. The cranium is markedly enlarged (volleyball to basketball sized). The bones of the skull are malformed and appear as loosely organized. |

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| 215 | 12 | Animal Science | Arthrogyrosis Multiplex (AM) is a lethal genetic defect that results in small, thin calves, born dead, with a twisted spine and often rigid hind limbs. The genetic disorder, also referred to as Curly Calf Syndrome, is inherited as a simple recessive trait. |
| 216 | 12 | Animal Science | *In mapping the bovine genome, researchers used the complete sequence of genomes from a single Hereford cow and comparative genome sequences for six more breeds to complete their project. |
| 217 | 12 | Animal Science | *Recently in 2009, in a project that took over six years, involving more than 300 scientists from 25 countries, an annotated sequence of the cattle genome was developed for the first time. |
| 218 | 12 | Animal Science | *Tibial Hemimelia, known as TH, and Pulmonary Hypoplasia with Anasarca, known as PHA, are genetic defects. TH is found primarily in cattle of Shorthorn origin. However, Maine Anjou, Chianina and Simmental populations have individuals which can pass this gene. |
| 219 | 12 | Animal Science | *Syndactyly (Mule Foot) is a genetic defect that results in the toes of hoof being fused together. Can range from one hoof to all four hooves affected. |
| 220 | 12 | Animal Science | *Osteopetrosis (Marble Bone Disease) is a genetic defect resulting in calves born 10-30 days premature. Typically, calves are born dead, but if born alive will die within 24 hours after birth. Calves possess a short lower jaw and impacted molars. |
| 221 | 12 | Animal Science | *Hypotrichosis (Hairlessness) is a non-lethal genetic defect resulting in partial to almost complete lack of hair. Affected calves are often born with very short, fine, kinky hair that falls out leaving bare spots or areas particularly susceptible to rubbing. |
| 222 | 12 | Animal Science | * Cortisone, a drug used to relieve pain in humans, is made from the gallbladder of a cow. |
| 223 | 12 | Animal Science | * Growth hormone is technically called somatotropin. |
| 224 | 12 | Animal Science | * Growth hormone is secreted from the anterior pituitary gland. |
| 225 | 12 | Animal Science | A gene is a biological unit of heredity contained in a chromosome, which controls the inheritance of one or more characteristics. Simply stated, it's the unit of heredity. |
| 226 | 12 | Animal Science | Genetics is the name for the study of the laws of inheritance. |
| 227 | 12 | Animal Science | Heritability is defined as the portion of the phenotypic differences that is due to genetic variation. For a trait that is 40 percent heritable, 40 percent of the variation in the contemporary group is due to genetics and 60 percent is due to environment. |
| 228 | 12 | Animal Science | Heritability is the portion of the phenotypic differences between animals that is due to heredity. |
| 229 | 12 | Animal Science | Cattle cells contain 30 chromosome pairs. |
| 230 | 12 | Animal Science | Birth weights in cattle are moderately to highly heritable. |
| 231 | 12 | Animal Science | An animal is said to be heterozygous for a trait if it carries one dominant and one recessive gene for that trait. |

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| 232 | 12 | Animal Science | * Some traits in beef cattle are more heritable than others. For example, most growth traits are moderately heritable. Most reproductive traits are lowly heritable because environmental factors play more important role in the expression of the trait than |
| 233 | 12 | Animal Science | *In January 2005, MMI Genomics launched a DNA test for determining homozygous polled. The test is called Tru-Polled and requires a blot of blood from the animal's ear for analysis. The test has a 95% accuracy. |
| 234 | 12 | Animal Science | To verify parentage of a calf, each of the calf, its sire and its dam must have a parentage profile of DNA markers and then the markers of the calf are compared to the parents. |
| 235 | 12 | Animal Science | * BSE stands for bovine spongiform encephalopathy. Its more common name is Mad Cow Disease. BSE dramatically affected the beef industries in Europe, Japan, Canada, and the United States in recent years. |
| 236 | 12 | Animal Science | Genotype is the genetic make-up of an animal. |
| 237 | 12 | Animal Science | Phenotype is the physical appearance of an animal due to genetic and environmental influences. |
| 238 | 12 | Animal Science | Double muscle is the common name for genetic muscular hypertrophy in beef cattle. |
| 239 | 12 | Animal Science | Stomach or intestinal worms can be controlled by medicating an animal's feed. |
| 240 | 12 | Animal Science | Sanitation is the best prevention for flies. |
| 241 | 12 | Animal Science | Grubs are small legless insects that begin as eggs on a calf's leg, move through his body and out his back. |
| 242 | 12 | Animal Science | Lice and flies are the most common external parasites in cattle. |
| 243 | 12 | Animal Science | Late winter or early spring is the best time for lice control. |
| 244 | 12 | Animal Science | The face fly causes economic losses by transmitting pinkeye. |
| 245 | 12 | Animal Science | The immature or larval stage of a fly is a maggot. |
| 246 | 12 | Animal Science | Horn flies affect beef cattle by sucking their blood. |
| 247 | 12 | Animal Science | Face flies and horn flies develop as maggots in freshly deposited cattle manure. |
| 248 | 12 | Animal Science | Lice can cause anemia in cattle by sucking blood out of the animal. |
| 249 | 12 | Animal Science | Warts are caused by a virus. |
| 250 | 12 | Animal Science | The hormone oxytocin primarily causes milk let down. |
| 251 | 12 | Animal Science | * Pheromones are any chemical communication between individuals. |
| 252 | 12 | Animal Science | When a cow is frightened the hormone Epinephrine (adrenaline) is likely to be secreted. |
| 253 | 12 | Animal Science | FMD stands for Foot and Mouth Disease, a highly contagious disease that causes blisters on the feet and muzzle of cloven-hoofed animals. |

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| 254 | 12 | Animal Science | Leptin is a protein produced by fat tissue that research links to an animals feed intake, energy metabolism and rate of fat deposition. A higher level of leptin generally means the animal possesses a greater quantity of fat and marbling. |
| 255 | 13 | DNA Testing | DNA fingerprinting with DNA SNP markers is a method of individual identification and parentage verification. The AGA switched to DNA testing for parent verification beginning July 2009. |
| 256 | 13 | DNA Testing | *Calpain is a naturally occurring enzyme that contributes a role in beef tenderness by weakening muscle fibers postmortem (after death). |
| 257 | 13 | DNA Testing | *Calpastatin blocks calpain and the role it plays in postmortem tenderization. |
| 258 | 13 | DNA Testing | Current DNA tenderness tests, check for the presence of calpastatin and calpain. |
| 259 | 13 | DNA Testing | Geneseek DNA is the primary genomic testing lab for the AGA. |
| 260 | 13 | DNA Testing | **SNP is a single nucleotide polymorphism. A SNP acts as a pointer for the presence of a gene. |
| 261 | 14 | Nutrition | Examples of protein feeds are soybean meal, alfalfa meal, cottonseed, and alfalfa hay. |
| 262 | 14 | Nutrition | Amino Acids are the building blocks of protein. |
| 263 | 14 | Nutrition | Roughage refers to a bulky feed that is low in energy and high in fiber such as hay. |
| 264 | 14 | Nutrition | Concentrates, known as supplements, are a classification of feedstuffs that are high in energy and low in fiber. Examples of concentrate feed grains include corn, milo, wheat, oats, barley and soybeans/soybean meal. |
| 265 | 14 | Nutrition | Young cattle use most of their feed for growth and maintenance. |
| 266 | 14 | Nutrition | Mature livestock use most of their feed for maintenance and reproduction, rather than growing. |
| 267 | 14 | Nutrition | At least 80-85% of the nutrients consumed by cattle come from non-grain sources – feedstuffs not edible by humans such as grass, roughage, food processing by-products and crop residues like corn stalks. |
| 268 | 14 | Nutrition | In general, you should start feeding a steer for show at 6-8 months of age. |
| 269 | 14 | Nutrition | Progesterone, estrogen, vitamin D, and aldosterone are all hormones synthesized from cholesterol. |
| 270 | 14 | Nutrition | Net energy is defined as the energy remaining after the deduction of digestive losses, gas losses, urinary losses and the work of digestion. |
| 271 | 14 | Nutrition | Vitamin A is required for the functioning of the eye in the dark. |
| 272 | 14 | Nutrition | A vitamin D deficiency in calves results in rickets. |
| 273 | 14 | Nutrition | Cattle usually receive adequate quantities of Vitamin D by synthesizing it in their own bodies during exposure to direct sunlight or from sun cured hay. |

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| 274 | 14 | Nutrition | ** A cattle liver functions chiefly as an aid to the alimentary canal in nutrient digestion. |
| 275 | 14 | Nutrition | The primary digestive activity that occurs in a cow's rumen is feedstuff fermentation. |
| 276 | 14 | Nutrition | Phosphorus has been called the "master mineral" because it is involved in practically all of the metabolic processes of the body. |
| 277 | 14 | Nutrition | Rennin is the enzyme in a calf's stomach that causes milk to form a curd. |
| 278 | 14 | Nutrition | * Surplus Vitamin A is stored in the liver for up to 90 days. |
| 279 | 14 | Nutrition | Colostrum is the first milk of a fresh cow. Colostrum is important to a calf because it provides protection against disease and is high in vitamins, minerals, energy, antibodies. |
| 280 | 14 | Nutrition | Lactose is the chemical name for milk sugar. |
| 281 | 14 | Nutrition | Maintenance, growth, lactation and reproduction are the four main divisions that feed usage can be categorized into. |
| 282 | 14 | Nutrition | Vitamin A is the most important vitamin for a breeding beef animal. |
| 283 | 14 | Nutrition | Salt and minerals are normally fed free choice to beef cows on pasture. |
| 284 | 14 | Nutrition | Energy, protein, vitamins, minerals and water are the 5 primary nutrients. |
| 285 | 14 | Nutrition | Bacteria and other microbes of the rumen enable cattle to digest cellulose. |
| 286 | 14 | Nutrition | Overfeeding corn to cattle not used to a concentrate feed can cause founder or acidosis. |
| 287 | 14 | Nutrition | Drought is likely to increase nitrate, a toxic factor, in corn silage. |
| 288 | 14 | Nutrition | Calcium is most likely to be deficient with cattle maintained on a high concentrate diet. |
| 289 | 14 | Nutrition | High concentrate feeding is associated with liver abscesses. |
| 290 | 14 | Nutrition | Growth-promoting implants affect feed efficiency. |
| 291 | 14 | Nutrition | *Protein in feed not digested by microbes of the rumen passes to the lower gut for digestion as bypass protein. |
| 292 | 14 | Nutrition | Distiller's grains; Brewer's grains; corn gluten meal and dehydrated alfalfa are high in by-pass protein. |
| 293 | 14 | Nutrition | Nutrient requirements for the pregnant beef cow are highest during the last third of pregnancy. |
| 294 | 14 | Nutrition | It is important to change a cow's feed slowly to give rumen bacteria time to adapt to a new diet. |
| 295 | 14 | Nutrition | Salt is iodized to supply iodine, which helps control goiter, a condition of the thyroid. |
| 296 | 14 | Nutrition | TDN stands for: total digestible nutrients. |
| 297 | 14 | Nutrition | Calcium and phosphorus are minerals essential for proper bone development. |

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| 298 | 14 | Nutrition | In drought stunted corn, the largest amounts of nitrate will be found in the stalks. |
| 299 | 14 | Nutrition | Feed is digested in the rumen by bacteria and protozoa. |
| 300 | 14 | Nutrition | * High nitrate feeds can be a problem. If you are feeding high nitrate feeds, you can also feed high energy feeds, like grain, to help the cow turn the nitrates into protein. |
| 301 | 14 | Nutrition | Cows will eat less on a hot summer day. |
| 302 | 14 | Nutrition | Rumination is regurgitation and chewing of the cud. |
| 303 | 14 | Nutrition | Molasses is a good source of energy, which is used in many feeds. |
| 304 | 14 | Nutrition | NPN stands for non-protein nitrogen. Urea is a form of non-protein nitrogen. |
| 305 | 14 | Nutrition | * Nutrient requirements for finishing cattle are based on 3 factors: the sex and size (weight) of the animal, the level of production (daily gain) and nutrient intake. |
| 306 | 14 | Nutrition | A feedstuff that has high fiber content would most usually be classified as roughage. |
| 307 | 14 | Nutrition | Lice and worms will cause cattle to be slow gainers. |
| 308 | 14 | Nutrition | Of the classes of nutrients (vitamins, minerals, proteins, carbohydrates, water, and fats) water is the most economical in almost all cases. |
| 309 | 14 | Nutrition | Iron, copper, phosphorus, calcium, and magnesium are examples of minerals. |
| 310 | 14 | Nutrition | White muscle disease is caused by a deficiency of either Vitamin E and/or Selenium. |
| 311 | 14 | Nutrition | * The total amount of water used in on-farm production of grain-fed beef averages 200 gallons per pound of carcass beef. |
| 312 | 14 | Nutrition | Mature cattle consume 8-15 gallons of water per day. |
| 313 | 14 | Nutrition | Feed grains are grains that are not suitable for human consumption, but when fed to animals resulting in highly nutritious nutrients for humans. |
| 314 | 14 | Nutrition | *Cellulose is the most abundant chemical component of plants, and it is the most abundant organic chemical substance on earth. It is indigestible by humans, but from 30 to 80 percent of the cellulosic material eaten by ruminant animals is digested. |
| 315 | 14 | Nutrition | ZIP is an acronym often used to communicate beef's nutritional value with zinc, iron and protein. |
| 316 | 14 | Nutrition | An animal unit is a standard measure based on feed requirements, used to combine various classes of livestock according to size, weight, age, and use. |
| 317 | 15 | Gelbvieh History & Development | Artificial insemination was the technology used to introduce Gelbvieh genetics to the United States. |
| 318 | 15 | Gelbvieh History & Development | Gelbvieh cattle were first imported into the United States in 1972. |

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| 319 | 15 | Gelbvieh History & Development | Leness Hall of Carnation Genetics, Washington was the person responsible for first importing Gelbvieh semen to the United States. |
| 320 | 15 | Gelbvieh History & Development | In Germany, Gelbvieh are also called German Yellow. |
| 321 | 15 | Gelbvieh History & Development | The bull stud that brought the first Gelbvieh semen to the United States was Carnation Farms Breeding Service (Carnation Genetics). |
| 322 | 15 | Gelbvieh History & Development | Gelbvieh semen was introduced into the United States in 1971. |
| 323 | 15 | Gelbvieh History & Development | Semen was offered from 4 bulls when the original Gelbvieh semen was imported into the United States. Their names were: Uni, Upat, Universal and Ufa. |
| 324 | 15 | Gelbvieh History & Development | Gelbvieh cattle originated in the Bavarian area of Germany. |
| 325 | 15 | Gelbvieh History & Development | Gelbvieh cattle were performance tested in Germany for over 110 years. |
| 326 | 15 | Gelbvieh History & Development | The first 7/8 Gelbvieh calves born in the U.S. were twins named Miss Sugar and Miss Spice. They were born in 1976 at Green Valley Gelbvieh Ranch in South Dakota. |
| 327 | 15 | Gelbvieh History & Development | There are full blood, purebred, percentage, hybrid, red, black and polled markers for Gelbvieh and Balancer bulls and females. |
| 328 | 15 | Gelbvieh History & Development | The initials AGA stand for American Gelbvieh Association. |
| 329 | 15 | Gelbvieh History & Development | The AGA was organized in 1971. The first national Gelbvieh sale was held in 1972. The first national Gelbvieh show was held in Denver in 1977. |
| 330 | 15 | Gelbvieh History & Development | The official publication for the AGA is Gelbvieh World. |
| 331 | 15 | Gelbvieh History & Development | The first issue of Gelbvieh World was published in July/August of 1986 |
| 332 | 15 | Gelbvieh History & Development | The Gelbray breed was developed by crossing Gelbvieh and Brahman. |
| 333 | 15 | Gelbvieh History & Development | Homer & Dotti Knost, Clinton, Louisiana developed the Gelbray breed. |
| 334 | 15 | Gelbvieh History & Development | One important result of the infusion of Brahman blood in the Gelbvieh breed by way of Gelbray is the increased heat and insect tolerance. |
| 335 | 15 | Gelbvieh History & Development | Many Gelbvieh full bloods are horned, with some instances of the polled trait. |
| 336 | 15 | Gelbvieh History & Development | In 1982, John Green, Franklinton, Louisiana was the first to produce a Gelbvieh calf that survived the detailed frozen embryo process. |

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| 337 | 15 | Gelbvieh History & Development | The purpose of the American Gelbvieh Association is to develop, promote, improve, record and register the Gelbvieh breed of cattle through a non-profit, membership corporation composed of cattle breeders who individually share the same purpose. |
| 338 | 15 | Gelbvieh History & Development | The first AGA president was Gallagher Rule, who also helped start the American Gelbvieh Association. |
| 339 | 15 | Gelbvieh History & Development | Founding memberships for AGA were \$500.00. |
| 340 | 15 | Gelbvieh History & Development | Al and Mary Knapp were the 2018 Hall of Fame Inductees. |
| 341 | 15 | Gelbvieh History & Development | The annual herd summary program was instituted in 1985 to let members report the animals no longer producing in their herds. |
| 342 | 15 | Gelbvieh History & Development | Two services offered to the membership as a result of the Herd Summary are a Lifetime Cow Summary on every cow and a registration application pre-printed with registered cow information. |
| 343 | 15 | Gelbvieh History & Development | On their herd assessments members are charged \$25.00 per head for females over 13 months of age. This includes one calf registration and one transfer that is tied to the specific cow the assessment was paid for. |
| 344 | 15 | Gelbvieh History & Development | The Lifetime Cow Summary reports a cow's progeny performance. |
| 345 | 15 | Gelbvieh History & Development | The Gelbvieh Sire Summary is divided into two sections: Progeny Tested and Genetic Indicator sires. |
| 346 | 15 | Gelbvieh History & Development | The 5 organizers of AGA were Gallagher Rule, Merle Buss, Mitch Dobson, Edd Pritchett and Fred Twietmeyer. |
| 347 | 15 | Gelbvieh History & Development | * The previous sites of the Junior Classic were: 1982 – Fremont, NE; 1983 – Spencer, IA; 1984 – Sioux Falls, SD; 1985 – Shawnee, OK; 1986 – Rapid City, SD; 1987 – Greeley, CO; 1988- Hutchinson, KS; 1989 – North Platte, NE, 1990 – Shawnee, OK, 1991 – Gillette, Wyoming, 1992 – Hutchinson, Kansas, 1993 – Kearney, Nebraska, 1994 – Columbia, Missouri, 1995 – Murfreesboro, Tennessee, 1996 – Pueblo, Colorado, 1997 – Wichita Falls, Texas, 1998 – Columbus, Ohio, 1999 – Kearney, Nebraska, 2000 – Springfield, Missouri, 2001 – Rapid City, South Dakota, 2002 – Perry, Georgia, 2003 – Hutchinson, Kansas, 2004 – Stillwater, Oklahoma, 2005 – Greeley, Colorado, 2006 – Sioux Falls, South Dakota, 2007 – Sedalia, Missouri, 2008 – Waynesville, North Carolina, 2009 – Des Moines, Iowa, 2010 – Bryan-College Station, Texas, 2011 – Kearney, Nebraska, 2012 – Chillicothe, Missouri, 2013 – Rochester, Minnesota, 2014 – Sioux Falls, South Dakota, 2015 – Springfield, Ohio, 2016 – Stillwater, Oklahoma, 2017 – Lincoln, Nebraska, 2018 – Waterloo, Iowa 2019- Lebanon Tennessee . |

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| 348 | 15 | Gelbvieh History & Development | * Past Presidents of AGA are: Gallagher Rule, Don Maskill, Charles Cooper, Johnny Green, Rod MacLennan, Charles Clark, Dotti Knost, Jerry Mettler, Earl Buss, Ed Kalianoff, Jim Beastrom, Alan Albers, C.K. Allen, Tom Cone, Larry Martin, Rick Soelzer, John Burbank, John Bartee, Wayne Roitsch, Bill Wilkinson, Steve Munger, John Carrel, Jay Johnson, Stuart Jarvis, Vaughn Thorstenson, Al Knapp, Jim Beastrom, Mark Goes, Rob Arnold, Neal Pearson, Scott Starr, John Carrel and Dan McCarty. |
| 349 | 15 | Gelbvieh History & Development | The current members of the "Hall of Fame" are: Leness Hall, Gallagher Rule, Fred Twietmeyer, Merle Buss, E. Edd Pritchett, Johnny Green, Don Maskill, Jim & Loretta Wilson, Bud & Thelma Beastrom, Charles & Carol Cooper, Rod MacLennan, Homer & Dottie Knost, Bill & Georgia Diehl, Jim Baldrige, Earl Buss, Chuck Struthers, Don & Mar Fawcett, Fred & Lee Kummerfeld, Jerry Mettler, Phil VanDervoort, Francis Bradshaw, Phil & Dolores Haglund, Alan Albers, Bobby Myrick, Tony Hayek, Dave Roen, Bill Clark, John Bartee, Sr., Roger Gatz, Jim & Barb Beastrom, John C. Oswald, Eldon and Kathy Starr, and Jeanette Rankin, John C. Oswald, Charles Clark, Dave & Cindy Judd, Ken Thorstenson, and Al & Mary Knapp, Mitch Dobson and Jim Thomas.. |
| 350 | 16 | Gelbvieh Traits | Problems with pink eye are limited in Gelbvieh cattle due to good pigmentation, which is one of the Gelbvieh traits. |
| 351 | 16 | Gelbvieh Traits | The Gelbvieh disposition is best described by the term "docile". |
| 352 | 16 | Gelbvieh Traits | Gelbvieh are considered a good maternal breed because of their excellence in the following traits: fertility, mothering, milk production, percent calf crop, weaning weights, disposition, early maturity, pigment distribution. |
| 353 | 16 | Gelbvieh Traits | A beef producer gains many advantages when he uses Gelbvieh in his program. Among these are excellence in growth rate, milk production, weaning weight, feed conversion, pigment distribution, carcass cutability, disposition, hardiness, and adaptability. |
| 354 | 16 | Gelbvieh Traits | * According to a 2003 AGA survey of Commercial cattle producers the four primary advantages of Gelbvieh sired cows are pounds weaned per cow exposed, milking ability, rebreeding ability and temperament. |
| 355 | 16 | Gelbvieh Traits | * According to a 2003 AGA survey of Commercial cattle producers the four primary advantages of Gelbvieh cross feeder calves are growth, muscle, leanness and temperament. |
| 356 | 17 | General Cattle Knowledge | In any species of animal, the dam of an offspring is the female parent. |
| 357 | 17 | General Cattle Knowledge | In any species of animal, the sire of an offspring is the male parent. |
| 358 | 17 | General Cattle Knowledge | Cows are female cattle that have produced at least one calf. |
| 359 | 17 | General Cattle Knowledge | Cattle of either sex, under one year of age, are called calves. |

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| 360 | 17 | General Cattle Knowledge | WDA is the abbreviation for Weight per Day of Age. |
| 361 | 17 | General Cattle Knowledge | When a cattleman says that a cow has “dropped”, he means she has calved. |
| 362 | 17 | General Cattle Knowledge | A herd sire is a principal breeding bull in the herd. |
| 363 | 17 | General Cattle Knowledge | When a breeder describes a cow as being “broody” he means that she gives the appearance of being a good mother. |
| 364 | 17 | General Cattle Knowledge | The paper that lists the sire and dam of a registered animal is the registration certificate. |
| 365 | 17 | General Cattle Knowledge | Cattle that are genetically hornless are said to be polled. |
| 366 | 17 | General Cattle Knowledge | When a breeder refers to the bottom side of a pedigree, he is talking about the dam’s ancestry. The top side is the sire’s ancestry. |
| 367 | 17 | General Cattle Knowledge | In a pedigree, the letters E.T. stand for embryo transfer. |
| 368 | 17 | General Cattle Knowledge | The most commonly used by-product of beef animals is leather. |
| 369 | 17 | General Cattle Knowledge | A herd bull battery consists of bulls in service in a herd. |
| 370 | 17 | General Cattle Knowledge | * *A contemporary group can be defined as a group of animals of a similar age, same sex, and similar management. |
| 371 | 17 | General Cattle Knowledge | Castration refers to the process of removing the testicles. |
| 372 | 17 | General Cattle Knowledge | Cattle futures markets are used to manage price risk in the cattle business. |
| 373 | 17 | General Cattle Knowledge | In any species of animal, the word “progeny” means offspring. |
| 374 | 17 | General Cattle Knowledge | When a breeder says a cow is “open”, he means she is not pregnant. |
| 375 | 17 | General Cattle Knowledge | “Branded beef” is a merchandising concept providing consumers with a labeled product that is typically more consistent in quality than commodity beef. |
| 376 | 17 | General Cattle Knowledge | Heifers are female cattle that have not born offspring. |
| 377 | 17 | General Cattle Knowledge | Dystocia is another term for difficult calving. |
| 378 | 17 | General Cattle Knowledge | A male bovine animal that has been castrated before sexual maturity is a steer. |
| 379 | 17 | General Cattle Knowledge | A frame six yearling bull has a 51-inch hip height. |
| 380 | 17 | General Cattle Knowledge | Ideally a cow should have a calf each year beginning at two years of age. |
| 381 | 17 | General Cattle Knowledge | Steers and heifers that have been finished for slaughter are referred to as feeder cattle. |

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| 382 | 17 | General Cattle Knowledge | A "freemartin" is a sterile heifer born twin to a bull. |
| 383 | 17 | General Cattle Knowledge | Bull calves, in general, are expected to weigh more at weaning than heifers. |
| 384 | 17 | General Cattle Knowledge | * The average generation interval in cattle is 4.5 to 6 years. |
| 385 | 17 | General Cattle Knowledge | * Selection differential is the superiority of parent stock compared to the average of the herd from which they were selected. |
| 386 | 17 | General Cattle Knowledge | Cattle, sheep and goats all belong to the same scientific family grouping in classification. |
| 387 | 17 | General Cattle Knowledge | * Bovidae, meaning hollow horned, is the cattle family classification. |
| 388 | 17 | General Cattle Knowledge | Cattle were first domesticated in the year 7,000 BC |
| 389 | 17 | General Cattle Knowledge | The world's leading country in cattle numbers is India. |
| 390 | 17 | General Cattle Knowledge | Shade and/or cool water are essential for calves in hot weather. |
| 391 | 17 | General Cattle Knowledge | Loss of weight during shipping is called shrink. |
| 392 | 17 | General Cattle Knowledge | A normal amount of shrink to expect is 3-6 percent. |
| 393 | 17 | General Cattle Knowledge | Lactation is the period of time when a cow is producing milking. |
| 394 | 17 | General Cattle Knowledge | Hip height, age and sex are the 3 pieces of data necessary to calculate frame score. |
| 395 | 17 | General Cattle Knowledge | Bulls used for breeding purposes should not be implanted with a growth stimulant because it severely retards testicle development. |
| 396 | 17 | General Cattle Knowledge | The preferred width of handling chutes is 22 to 28 inches. |
| 397 | 17 | General Cattle Knowledge | Most livestock futures are traded at the Chicago Mercantile Exchange. |
| 398 | 17 | General Cattle Knowledge | Udder and teat soundness are a concern for several reasons: extra costs, reduced convenience, reduced longevity with injury or mastitis, calf performance may be affected by reduction in milk flow or lower colostrum intake by new born calves, and heritability. |
| 399 | 17 | General Cattle Knowledge | Cattle improve grass growth by aerating the soil with their hooves, allowing oxygen to enter the soil. |
| 400 | 17 | General Cattle Knowledge | Animal Rights is a position taken by those who are against the "exploitation" of all animals for any purpose and believe that animals have legal or moral rights similar to humans. |

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| 401 | 17 | General Cattle Knowledge | Animal welfare is based the principles of humane care and use. Believing that animals can and will be used to benefit humans, and the responsibility of use carries certain obligation, such as appropriate husbandry, provision of essential food, water, and shelter are practices of good animal welfare. |
| 402 | 17 | General Cattle Knowledge | The majority of normal cattle deaths occur in the first 24 hours of life. The leading causes of deaths are slow and difficult births (dystocia), and cold stress (hypothermia). |
| 403 | 17 | General Cattle Knowledge | Public land is land owned by the local, state, or federal government. |
| 404 | 17 | General Cattle Knowledge | A grazing fee is a payment made by ranchers to the government for the right to graze livestock on public land areas for a specified length of time. |
| 405 | 17 | General Cattle Knowledge | Rangeland is land on which the native vegetation is predominantly grasses, grass-like plans, forbs, or shrubs, grazed by wild or domestic animals and is managed as natural ecosystem. |
| 406 | 18 | Breeds | A breed is described, as a group of animals having a common origin and as a result of breeding and selection, possess common characteristics such as color, ears, horns, etc. |
| 407 | 18 | Breeds | Examples of Continental European breeds are: Gelbvieh, Maine Anjou, Blonde d'Aquitane, Charolais, Salers, Simmental, Chianina, Limousin or Braunvieh. |
| 408 | 18 | Breeds | The new breeds brought about by the Brahman cross are called American breeds. Some examples are: Gelbray, Charbray, Braford, Brangus, Simbrah, Beefmaster, Santa Gertrudis. |
| 409 | 18 | Breeds | Examples of British (English) breeds are: Angus, Hereford, Galloway, Shorthorn, Red Angus, Polled Hereford, South Devon |
| 410 | 18 | Breeds | Any combination of two or more breeds is a crossbred animal. |
| 411 | 18 | Breeds | The cattle species called Bos Taurus is generally described as cattle with no hump over the shoulder and neck. Examples include Continental European breeds like Gelbvieh, Limousin, Maine Anjou; and British breeds, Angus, Hereford, and Shorthorn. |
| 412 | 18 | Breeds | The cattle species called Bos Indicus is generally described as cattle with a hump over the shoulder and neck. Bos indicus cattle are heat tolerant and resistant to ticks and other insects. Bos indicus examples include Nelore, Gir, Guzerat, and Nelore. |
| 413 | 18 | Breeds | * If a full blood Gelbvieh bull is mated to a cow that is 1/2 Hereford & 1/2 Angus, the fractions of each breed the calf would be are 1/2 Gelbvieh, 1/4 Angus, 1/4 Hereford. |
| 414 | 18 | Breeds | An animal that has some Brahman blood is referred to as being "eared". |
| 415 | 19 | Breeding Systems | Robert Bakewell was a famous man from Great Britain that first practiced line breeding to produce animals of a fixed type. |
| 416 | 19 | Breeding Systems | The term F1 refers to the first cross of two unrelated pure breeds. |
| 417 | 19 | Breeding Systems | Another term for hybrid vigor is heterosis. |

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| 418 | 19 | Breeding Systems | A terminal cross is designed to produce a growthy calf from a moderate sized cow. No females are kept for replacement and no bulls are kept for use. All progeny are raised for slaughter. |
| 419 | 19 | Breeding Systems | In a breeding herd, sires are usually selected on the basis of a combination of things, namely: pedigree, conformation, performance, fertility, eye appeal, progeny, and EPDs. |
| 420 | 19 | Breeding Systems | Get-of-Sire means calves sired by the same bull. |
| 421 | 19 | Breeding Systems | If a breeder uses only animals from his/her own herd and doesn't bring in outside genetics, he/she is said to have a closed herd. |
| 422 | 19 | Breeding Systems | Culling is a process of eliminating low quality animals from a herd. |
| 423 | 19 | Breeding Systems | Line breeding is a mating system, which concentrates the inheritance of one or more ancestors in the pedigree. |
| 424 | 19 | Breeding Systems | Inbreeding is mating of closely related animals. |
| 425 | 19 | Breeding Systems | Crossbreeding is mating of animals from different breeds. |
| 426 | 19 | Breeding Systems | An animal whose parents are both of the same breed is considered a "straight-bred." |
| 427 | 20 | Exports | Exports add value to underutilized beef cuts that have limited demand in the United States, such as short rib, short plate, liver or tripe. |
| 428 | 21 | Identification | The permanent identification number in an animal's ear is a tattoo. |
| 429 | 21 | Identification | A tattoo can reflect several different things, such as the year the calf was born, calf's parentage, or the sequence as to when a calf was born. |
| 430 | 21 | Identification | Three types of animal identification include ear tag, number brand, and tattoo. |
| 431 | 21 | Identification | Electronic identification by using bar code or radio frequency transmission is known as eID. |
| 432 | 21 | Identification | An animal identification device that contains an electronic chip is known as an eTag. |
| 433 | 21 | Identification | Process verification is the ability to verify whether an animal has received a specific product such as a vaccine or a procedure as claimed by a seller. |
| 434 | 21 | Identification | Source verification is the ability to verify the source of an animal as claimed by the owner or seller. |
| 435 | 21 | Identification | RFID stands for radio frequency identification. RFID is any electronic identification system comprised of a reader/scanner/interrogator and a transponder that can read or write data content using a specified radio frequency. |
| 436 | 21 | Identification | NAIS is an acronym for National Animal Identification System. The NAIS is a national program intended to identify all agricultural animals and track them as they come into contact with, or are inter-mixed with, animals other than herd mates from their prem |
| 437 | 21 | Identification | One of the goals of NAIS is 48-hour traceback after the discovery of a disease outbreak. |

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| 438 | 21 | Identification | A premises is defined as a location where animals are raised, held, or boarded. |
| 439 | 22 | Showing | In showmanship, exhibitors are expected to have a show halter, showstick, and scotch comb. |
| 440 | 22 | Showing | When traveling it's very important to bring calf's registration papers (if available), bill of sale, brand inspection, and health inspection papers (depending on state requirements). |
| 441 | 22 | Showing | A blocking chute is a metal or aluminum structure with a head gate used to restrain animal while fitting or clipping. |
| 442 | 22 | Showing | A show halter is a leather halter used only when showing an animal. |
| 443 | 22 | Showing | A blower is an electric unit used to dry an animal or to blow out dirt before fitting. |
| 444 | 22 | Showing | A show box is a wood, aluminum, or plastic box used to store show products and other tools needed at a show. |
| 445 | 22 | Showing | When you lead an animal in the show ring, you should be on the animal's left side. |
| 446 | 22 | Showing | A show stick is an instrument used for setting up cattle's feet in the show ring. |
| 447 | 22 | Showing | In a showmanship contest, the exhibitor is evaluated on their overall ability to effectively present their animal in the ring. |
| 448 | 22 | Showing | An animal's "bloom" refers to the desirable condition of skin & hair. |
| 449 | 23 | Consumer Information | * The Food and Drug Administration says that ground beef products should be cooked to an internal temperature of at least 160 degrees, to destroy E. coli or other types of bacteria. |
| 450 | 23 | Consumer Information | * When comparing the nutrient advantages of a 3-ounce portion of top round steak with a 3-ounce portion of chicken breast, one serving of beef equals 7 chicken breasts to get the same amount of Vitamin B12. One serving of beef equals 3 chicken breasts |
| 251 | 23 | Consumer Information | May is traditionally the month when beef and the beef industry is recognized. |
| 452 | 23 | Consumer Information | Beef consumption in the U.S. s per person per year is second to poultry. |
| 453 | 23 | Consumer Information | A three-ounce serving of meat provides substantial quantities of the recommended daily allowance for various nutrients, which include B-vitamins, iron, zinc, and protein. |
| 454 | 23 | Consumer Information | * A 100 grams serving of lean beef has approximately the same amount of cholesterol as 100 grams of either fish or chicken. |
| 455 | 23 | Consumer Information | Proteins from all meat are at least 97% digestible and meat fat is at least 96% digestible. |
| 456 | 23 | Consumer Information | Protein from meat is higher quality (a complete protein) than protein from a plant source (incomplete protein) |

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| 457 | 23 | Consumer Information | GMOs “Genetically Modified Organisms” are organisms that have had their genome modified artificially by genetic engineering. |
| 458 | 23 | Consumer Information | Meat provides “heme” iron, which is better absorbed by the body than non-heme iron from plant foods. |
| 459 | 23 | Consumer Information | A ½ cup of cooked dried beans, 4 ounces of tofu, 1 egg, or 2 tablespoons of peanut butter equals 1 ounce of protein. |
| 460 | 23 | Consumer Information | A study in the Journal of American Dietetic Association found that rinsing and blotting meat with a paper towel can reduce the fat content of cooked ground beef, hamburgers, meatballs, and meatloaf by as much as 50 percent. |
| 461 | 23 | Consumer Information | Demand of prepared meals continues to increase, since today’s women work an annual average of 233 hours more than they did in 1976 and men work an annual average of 100 hours more. |
| 462 | 23 | Consumer Information | By law, ground beef can contain no more that 30% fat. |
| 463 | 23 | Consumer Information | Between 40 and 45% of all beef sold today is in a ground form. This includes fast food burgers, ground beef purchased in the grocery store and processed meats such as sausages, hot dogs, and lunch meat. |
| 464 | 24 | Calculations | *Adjusted weaning weight is figured by adjusting the calf's weight at weaning to a standard 205-day weight and adjusting for the age of the dam. |
| 465 | 24 | Calculations | ** The AGA does not use standard Beef Improvement Federation (BIF) age of dam additive adjustment factors to calculate adjusted weaning weights. Instead the AGA uses a more continuous adjustment formula that takes into account a dam’s age in days rather than in rounded years. |
| 466 | 24 | Calculations | ADG is the abbreviation for Average Daily Gain. |
| 467 | 24 | Calculations | The equation for Weight per Day of Age (WDA) is the animal's current weight divided by its age in days. |
| 468 | 24 | Calculations | The equation for lifetime Average Daily Gain (ADG) is the animal's current weight minus its birth weight; this is divided by the age in days. |
| 469 | 24 | Calculations | ** Adjusted weaning weight equation: $\text{Adj. 205} = ((\text{Actual Weaning Weight} - \text{Actual Birth Weight}) / \text{Age in days at Weaning}) * 205 + (\text{Birth Weight} + \text{Age of Dam Adjustment})$ |
| 470 | 24 | Calculations | ** Adjusted yearling weight equation: $\text{Adj. 365 weight} = ((\text{Actual Yearling Weight} - \text{Actual Weaning Weight}) / \text{Number of days between weights}) * 160 + \text{Adj. 205-day weight}$ |
| 471 | 24 | Calculations | * The three things that actual weaning weight is normally adjusted for are age of calf, age of dam, and hybrid vigor. |
| 472 | 24 | Calculations | * Beef Improvement Federation (BIF) guidelines and the AGA recommend taking weaning weights when a calf is between 160 days to 250 days of age. Yearling weights should be taken between 320 days to 410 days of age. |

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| 473 | 24 | Calculations | ** Percent calf crop weaned per cow exposed = (Calves weaned/Number of cows exposed) x 100 |
| 474 | 24 | Calculations | SPA stands for Standardized Performance Analysis. This NCBA sponsored program provides useful production and financial-performance information for any size herd or production region. |
| 475 | 24 | Calculations | * When adjusting weaning weights (205-day weight) the following factors are used to make these adjustments: dams age, age of calf and the sex of the calf. |
| 476 | 24 | Calculations | Cost of production is the sum (measured in dollars) of all purchased inputs and other expenses necessary to produce farm products. Cost of production statistics may be expressed as an average per animal, per acre, or per unit of production (bushel, pound) |
| 477 | 25 | Carcass/Slaughter | USDA quality grades for young, "A" maturity beef are: Prime, Choice, Select and Standard. |
| 478 | 25 | Carcass/Slaughter | The beef carcass is divided into 8 wholesale cuts: chuck, rib, loin, round, flank, short plate, brisket, and shank. |
| 479 | 25 | Carcass/Slaughter | When evaluating cattle, external fat is referred to as fat cover, finish or condition. |
| 480 | 25 | Carcass/Slaughter | There are 5 USDA Yield Grades (1,2,3,4,5). |
| 481 | 25 | Carcass/Slaughter | The USDA Yield Grade system provides an estimate of the cutability of a carcass. |
| 482 | 25 | Carcass/Slaughter | Cutability is the proportion of lean salable meat yielded by a carcass. |
| 483 | 25 | Carcass/Slaughter | A Yield Grade of 1 is the highest cutability as opposed to a Yield Grade of 5 that is the lowest. |
| 484 | 25 | Carcass/Slaughter | To insure wholesomeness, inspection is mandatory by the federal government in all commercial slaughter plants. |
| 485 | 25 | Carcass/Slaughter | **The quality grade of a beef carcass is determined by the amount of marbling in the rib eye muscle and the physiological age of the carcass. |
| 486 | 25 | Carcass/Slaughter | **USDA feeder cattle yield grades are based upon frame size and muscling. |
| 487 | 25 | Carcass/Slaughter | The forequarter of a beef carcass is heavier than the hindquarter. |
| 488 | 25 | Carcass/Slaughter | Slaughter veal is not yield graded. |
| 489 | 25 | Carcass/Slaughter | Fat is necessary as an outside cover of a carcass to protect it during normal storage and handling. |
| 490 | 25 | Carcass/Slaughter | Heifers have the lowest lean to fat ratio. |
| 491 | 25 | Carcass/Slaughter | Cattle should be off feed at least 12 hours before slaughter. |
| 492 | 25 | Carcass/Slaughter | ** Shape and color of the ribs, the color of the lean in the longissimus muscle and the degree of ossification of the thoracic cartilage or buttons are all evaluation points used to determine maturity of a carcass. |
| 493 | 25 | Carcass/Slaughter | Intramuscular fat is also known as marbling. |
| 494 | 25 | Carcass/Slaughter | Intermuscular fat is known as seam fat. |

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| 495 | 25 | Carcass/Slaughter | Fat measurements are usually taken on cattle at the 12th rib; 3/4 distance of medial to lateral end of ribeye. |
| 496 | 25 | Carcass/Slaughter | Cattle that have been finished on a grass-rich diet prior to slaughter will have yellow colored fat. This is due to the high levels of beta-carotene found in grass which is stored in their fat after ingestion. |
| 497 | 25 | Carcass/Slaughter | Tenderness, juiciness, and flavor are three factors that influence the palatability of meat. |
| 498 | 25 | Carcass/Slaughter | Veal is the meat of calves butchered under 300 pounds. |
| 499 | 25 | Carcass/Slaughter | Meat is approximately 60 percent water. |
| 500 | 25 | Carcass/Slaughter | Fatness, muscling, and weight are the three main factors affecting yield grades. |
| 501 | 25 | Carcass/Slaughter | It costs the beef industry \$2 billion per year to remove excess fat from beef carcasses. |
| 502 | 25 | Carcass/Slaughter | Age of the animal and days on feed are better indicators of overall palatability than marbling. |
| 503 | 25 | Carcass/Slaughter | * The term "70-70-0" applies to packers and feeders that would ideally like 70% of all fed cattle to grade Choice or higher with 70% Yield Grade 1s & 2s and zero out cattle. |
| 504 | 25 | Carcass/Slaughter | Case-Ready beef is a term for beef cuts that arrive at the retail store ready to place in the meat display case. Walmart is the largest retailer utilizing case ready beef since it eliminates the need for a meat cutter at the retail level and that saves money. |
| 505 | 25 | Carcass/Slaughter | * Out cattle refer to cattle with too big or too small of carcasses, grading Standard or lower, dark cutters or Yield Grade 4s and 5s. |
| 506 | 25 | Carcass/Slaughter | * The top eight quality related problems noted by retailers, packers, consumers and restaurant/foodservice operators are: 1) excess external fat; 2) injection-site blemishes; 3) size of individual cuts; 4) excessive seam fat; 5) inconsistency in the product; 6) low overall cutability; 7) bruise damage; 8) inadequate marbling. |
| 507 | 25 | Carcass/Slaughter | There is almost 7 billion pounds of ground beef sold annually; 41% of this is sold through retail stores, 59% is sold through fast food restaurants and other food. |
| 508 | 25 | Carcass/Slaughter | KPH stands for Kidney, Pelvic, and Heart fat. |
| 509 | 25 | Carcass/Slaughter | Ribeye area is the only yield grade factor that assesses muscling. |
| 510 | 25 | Carcass/Slaughter | The normal range for dressing percent of Choice steers is 62-65%. |
| 511 | 25 | Carcass/Slaughter | * Boxed beef is a term used to describe beef marketed directly from the packing house to restaurants as individually wrapped, vacuum sealed, sub-primal or retail cuts. |
| 512 | 25 | Carcass/Slaughter | A non-ambulatory bovine animal is referred to as a downer. Current legislation prevents downer animals in the U.S. food system. |
| 513 | 25 | Carcass/Slaughter | Injection sites are a condition that puts an animal at risk for residue violation. |

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| 514 | 25 | Carcass/Slaughter | The 9 primary cuts of beef are: round, sirloin, short loin, rib, chuck, flank, short plate, brisket, and fore shank. |
| 515 | 25 | Carcass/Slaughter | USDA "Standard" beef is the leanest grade of beef, as contains the least amount of marbling (the flecks of fat within the muscle). The second leanest grade is "Select". |
| 516 | 26 | Ultrasound | The approximate correlation between ultrasound carcass data and actual carcass data is 70%. |
| 517 | 26 | Ultrasound | A certified ultrasound technician collects ultrasound data between 320-410 days of age. Ultrasound data is then used to predict Yield Grade, Ribeye Area, Fat Thickness and Marbling EPDs. |
| 518 | 26 | Ultrasound | The AGA will accept ultrasound data from any APTC-certified lab. |
| 519 | 26 | Ultrasound | Ultrasound measurements taken include ribeye area (REA), intramuscular fat percentage/marbling (IMF), rump fat, rib fat, and scan weight. |
| 520 | 27 | Feedlot | Steers and heifers ready to enter the feedlot for finishing are called feeders. |
| 521 | 27 | Feedlot | A feedlot consists of a group of pens where steers and heifers are finished for slaughter. |
| 522 | 27 | Feedlot | Feed efficiency is measured by the pounds of feed required to produce a pound of gain. |
| 523 | 27 | Feedlot | A realistic figure for a good average daily gain for cattle on feed or in a feedlot would be 3 to 4 pounds. |
| 524 | 27 | Feedlot | The conditioning process in the growing phase of cattle prior to finishing in the feedlot is called "backgrounding". |
| 525 | 27 | Feedlot | Three Gelbvieh traits desired by today's feedlot operations are growth, carcass leanness and feed efficiency. |
| 526 | 28 | EPDs | Total maternal (TM): An index that combines growth and milk information as a prediction of the weaning weight performance of calves from a sire's daughters. As an index, this value is not reported with an accompanying accuracy. A greater TM value means a mother that returns comparatively higher weaning weights on her calves. TM Index = MK EPD + ½ WW EPD. |
| 527 | 28 | EPDs | The American Gelbvieh Association's (AGA) EPDs are calculated in the multibreed genetic evaluation powered by BOLT single-step technology through IGS (International Genetic Solutions). |
| 528 | 28 | EPDs | A sire's EPD is a prediction of how his future progeny will perform on a comparative basis with other sires. |
| 529 | 28 | EPDs | Most Gelbvieh and Balancer EPDs are now comparable with all breeds who participate in genetic evaluations through IGS (International Genetic Solutions). These breeds include Red Angus Association of American, American Simmental Association and the American Shorthorn Association just to name a few. |
| 530 | 28 | EPDs | The Gelbvieh bulls selected as trait leaders are those that ranked the highest in a specific trait. |

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| 531 | 28 | EPDs | * In order to be listed as a Trait Leader, a sire must qualify as a Progeny Tested Sire and have Accuracy in the listed trait of at least .50. Listing for Carcass Traits are slightly different as sire must have either five (5) carcass progeny or 25 females |
| 532 | 28 | EPDs | Milk EPD is a measure of the genetic ability of a sire's daughters to produce milk measured in pounds of progeny weaning weight. |
| 533 | 28 | EPDs | * A trait ratio of 112 means that the animal is 12% above the average in that trait. |
| 534 | 28 | EPDs | EPDs on non-parent animals are based on the individual's own record plus pedigree information. |
| 535 | 28 | EPDs | when evaluating sires to generate replacement heifers, a higher CED value will mean less calving difficulty in those daughters down the road. |
| 536 | 28 | EPDs | * The Stayability EPD predicts the probability that a cow or a sire's daughters will be retained in the herd past six years of age. |
| 537 | 28 | EPDs | For over 25 years, the AGA calving ease (CE) and calving ease daughter (CED) EPDs were reported in the form of a ratio. They are now reflected as percentages. Higher CE values equal more unassisted births from sires when mated to first-calf heifers. Higher CED EPDs indicate less calving difficulty from a sire's own first-calf heifers. |
| 538 | 28 | EPDs | The AGA's carcass related EPDs incorporate ultrasound data, as well as carcass data collected on a sire's progeny. |
| 539 | 29 | Bovine Anatomy | * The anatomical structure in cattle that is comparable to the human knee is the stifle. |
| 540 | 29 | Bovine Anatomy | * The cervix in the cow's reproductive tract creates the most difficulty for the artificial inseminator. |
| 541 | 29 | Bovine Anatomy | The vulva is the external opening of the vagina. |
| 542 | 29 | Bovine Anatomy | * The calf fetus develops within layers of membrane called the placenta through which it receives nourishment from the mother. |
| 543 | 29 | Bovine Anatomy | The stomach of a beef animal has 4 compartments: rumen, reticulum, omasum and abomasum. |
| 544 | 29 | Bovine Anatomy | * The abomasum (true stomach) portion of a cow's stomach is most similar to the human stomach. |
| 545 | 29 | Bovine Anatomy | In a beef cow, the rumen compartment of the stomach has the greatest volume. |
| 546 | 29 | Bovine Anatomy | * Another name for the reticulum (one of the four stomachs of cattle) is honeycomb. |
| 547 | 29 | Bovine Anatomy | A cow has no upper incisors. |
| 548 | 29 | Bovine Anatomy | * The esophageal groove in calves allows milk to bypass the rumen and reticulum for digestion in the abomasum. |
| 549 | 29 | Bovine Anatomy | The cecum is located in the first section of the large intestine. |
| 550 | 29 | Bovine Anatomy | In referring to cattle, the term "hooks" refers to hipbones. |

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| 551 | 29 | Bovine Anatomy | The dewlap is the loose skin that hangs between the throat and brisket on cattle. |
| 552 | 29 | Bovine Anatomy | The poll is on top of the head. |
| 553 | 29 | Bovine Anatomy | The dewclaw is above the pastern on the back of the leg. |
| 554 | 29 | Bovine Anatomy | Femininity is the refined appearance of a female while masculinity is the rugged appearance of a male. |
| 555 | 29 | Bovine Anatomy | Both characteristics, femininity and masculinity are usually evaluated by observing the head, neck and shoulder region. |
| 556 | 29 | Bovine Anatomy | The USDA uses dentition to determine an animal's age. Cattle over 30 months are evidenced by the eruption of at least one of the second set of permanent incisors. |
| 557 | 29 | Bovine Anatomy | "Post legged" refers to an animal with straight back legs. |
| 558 | 29 | Bovine Anatomy | "Parrot mouth" is a condition when the top jaw overlaps the lower jaw. |
| 559 | 29 | Bovine Anatomy | A scur refers to a rudimentary horn growth that may or may not become attached to the skull at maturity. |
| 560 | 29 | Bovine Anatomy | Conformation is the physical form of an animal; its shape and arrangement of parts. |
| 561 | 29 | Bovine Anatomy | Two of the best places on a calf that indicate natural muscling are the lower round and the forearm. |
| 562 | 29 | Bovine Anatomy | The amount of fat on a market animal is called finish. |
| 563 | 29 | Bovine Anatomy | Tripe is made from the rumen of a bovine. |
| 564 | 29 | Bovine Anatomy | * Peristalsis is the name for the rhythmic muscular contractions which occur in the rumen. |