



## WAGYU BEEF-THE FINEST AND MOST FLAVORFUL BEEF IN THE WORLD.

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### INTRODUCTION.

The word Wagyu refers to all Japanese cattle ("Wa" means Japanese "gyu" means cattle). This is the breed that produces Wagyu Kobe Beef, which was named for the city where the Wagyu cattle were first bred 172 years ago. Wagyu were derived from native Asian cattle which were crossed with British and other European breeds. The most significant characteristic that has developed over this time is the wagyu's ability to distribute oleic acid uniformly throughout the muscle (Marbling). Oleic acid provides the animal with sustained energy release for the draft work for which it was bred. By good fortune, the same oleic acid tastes superior to the fats found in European and Asian breeds.

### Wagyu cattle.

Wagyu is a horned breed and can be either Black or Red. Black Wagyu animals are perceived to have the best quality meat. They are known for their peaceful temperament, some think that it is because of their history with their special way of being grown. Calves are vigorous and average 30-35 Kg when born. The average body weight of wagyu steers and heifers at the time of slaughter may be about 750 kg and 650 kg respectively. The average daily weight gain of wagyu cattle during finishing stage is about 1-1.2 kg/day, with ration consisting of 10:90 (roughage:concentrate) and feed efficiency is 4-4.5 kg of feed (DM) per kg of gain during this feeding phase.

There are Four modern breeds of Wagyu

1. Japanese Black Wagyu (most of the Wagyu in the US and 85% of Japan's cattle herd).
2. Japanese Brown Wagyu referred to as Red Wagyu or Akaushi (10% of Japan's herd).

3. Japanese Polled Wagyu (0.1% of Japan's cattle herd)

4. Japanese Shorthorn Wagyu (3% of Japan's cattle herd)

### Benefits of wagyu.

Marbling is the most reliable component of meat taste and tenderness. Marbling refers to the little specks of fat dispersed in lean tissue that translates into big bucks for the beef producer. It is considered the best indicator of eating satisfaction when consumers enjoy beef. Higher levels of marbling result in better flavor, beef and juiciness. Although marbling does not guarantee tenderness, well-marbled beef can be cooked to a higher degree of doneness and still maintain juiciness. This seems especially important for roasts. Marbling begins at about 12 months of age and is maximized by 24 months; therefore Wagyu are ideally slaughtered as over 2-year olds. Marbling is almost the sole indicator of USDA quality grade, which ranges from Standard to Prime. The Japanese Wagyu probably is the **highest marbling** breed in the world. In addition, the intra-muscular fat of Wagyu is quite high in oleaginous unsaturated fatty acids, resulting in a much higher ratio of mono-unsaturated to saturated fatty acids than other breeds. This ratio gives the meat a wonderfully rich, juicy, buttery taste and enhanced tenderness. Mono-unsaturated fatty acids are considered to be the "healthy" fatty acids. Wagyu beef contains a higher percentage of Omega-3 and Omega-6 fatty acids than typical beef.

The unique advantage in wagyu is that it contains a much higher proportion of the desirable monounsaturated fats than other beef. The monounsaturated/saturated fat ratio was up to three times higher in wagyu than other beef. Fifty percent of all marbling within a wagyu carcass was made up of oleic acid (mono-unsaturated), while a relatively small portion was saturated fat. But even the saturated fat



contained in wagyu is different. Forty percent of it is in a version called Stearic acid, which is regarded as having a minimal impact in raising cholesterol level. So really, the profile of marbled wagyu beef is very beneficial to human health. "It can be described as a healthier type of meat".



Omega 6 fatty acid (CLA) is only present in small amounts in food and best sources are beef and dairy products. CLA has been shown to have potent anti carcinogenic effects, reducing heart diseases, reducing body fat gain, anti inflammatory and increasing immune responses. Wagyu cattle contain the highest amount of CLA per gram of any food stuffs.-about 30% more than other beef breeds-due to higher Linoleic acid level.

#### **Fertility.**

Wagyu cattle are very fertile and readily adapt to wide range of climatic condition. Most females cycles before 12 months of age. Usually heifers are inseminated for the first time as early as 13 months, but 15-17 months is more common. Official data on conception rates suggests that the success rate with AI mating is usually in 82-85 % range. Bulls can reliably service 50% more females than other breeds. Wagyu cattle have low birth weight for easy calving and high growth rates for maximum returns. They mature at moderate size whereas often, large cattle are late maturing and produce poorly with respect to frame to muscle ratio.

#### **Fattening Programme.**

On average, the steers enter the fattening stage at around 10 months of age and they are slaughtered when 24-26 months old. These animals are fed with a special ration with the energy level gradually being

raised as the animal is finisher for slaughter at around 24 months. For the first half of the growing and fattening period, the diet may be relatively low in energy and high in roughage. Management practice include regular massage with oil to improve the distribution and softness of subcutaneous fat, feeding beer and other special food to stimulate the appetite when the animal is on the high energy, low bulk finishing ration and the deliberate restriction of exercise to prevent muscle toughness. The result is a mature carcass with bright cherry red meat, almost all of which is extensively and finely marbled with pure white fat. Wagyu steer carcass contain about 35% fat, in some cases fat can constitute more than 40% of the carcass. Although the potential breeding life of most cows is much more than 8 years, the value of their carcass drop sharply after they are about eight years old due to a darkening of the meat with this age. Therefore better to prefer breeding stock for fattening and slaughter at relatively young ages.

#### **Health Facts**

Biochemistry tests conducted by Washington State University on Wagyu fatty tissue indicate that the fat from this breed has a healthier fatty acid profile and an unsaturated-to-saturate fat ratio of 2:1 instead of the 1:1 ratio of regular beef. Because of the Wagyu cattle's genetic predisposition and special diet including beer and sake, wagyu yields a beef that contains a higher percentage of omega-3 and omega-6 fatty acids than typical beef. The increased marbling also improves the ratio of monounsaturated fats to saturated fats.

#### **REFERENCES.**

1. S.P.Malik, K.A.Johnson, O. Sears and J.J.Michal. The growth performance of wagyu- cross cattle. 2002. Third wagyu symposium. 39-43.
2. Prof. John W.L. 1983 Beef cattle in Japan. University of Queensland Press -22-48.
3. J. Wegner, P. Huff, C.P. Xie (2001), Relationship of plasma leptin concentration to intramuscular fat content in beef from wagyu cattle. Canadian journal of animal science. 81 :451-457.
4. Mir, P. S., Bailey, D. R. C., Mir, Z., Entz, T., Jones, S. D. M., Robertson, W. M., Weselake, R. J. and Lozeman, F. J. 1999. Growth, carcass and meat quality characteristics of beef cattle with 0, 50 and 75% Wagyu genetic influence. Can. J. Anim. Sci.