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Growth- Related Change in of Muscle Development and Fat Accumulation of in European and Wagyu (Japanese Black) Cattle

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The purpose of this study was to investigate the growth related changes in muscle development and fat characteristics of European and Wagyu (Japanese Black) Cattle. German Angus as a beef type, Galloway as a hardy type, Holstein Friesian as a dairy type, double-muscled Belgian Blue as an extreme type for muscle growth, and Japanese Black as an extreme type for fat deposition were used. Between five and 17 bulls of each European breed were slaughtered at 6, 12, 18, and 24 mo of age. Between five and 15 steers of Japanese Black were slaughtered at 8, 14, 20 and 26 mo. In these carcasses, the weights of four muscles, subcutaneous fat, intestinal fat, omental fat, perirenal fat were measured at each stage. Percentages of intramuscular fat contents in two muscles were measured by the Soxhlet method. Intramuscular fat traits were determined and classified by computerized image analysis. There was significantly higher muscle development in Belgian Blue than in other breeds. However, fat accumulation showed the opposite tendency. In all characteristics related to fat accumulation, the Wagyu exhibited markedly higher values than the European cattle, especially in subcutaneous, intestinal, and intramuscular fat of the longissimus muscle.