

_____ ABSTRACT _____

Fatty acid composition of subcutaneous and intramuscular adipose tissues and M. longissimus dorsi of Wagyu cattle.

Sturdivant CA¹, Lunt DK, Smith GC, Smith SB.

¹ *Department of Animal Science, Texas Agricultural Experiment Station, Texas A & M University,*

Three experiments were conducted to document the fatty acid composition of tissues from purebred Wagyu cattle from Japan and North American crossbred Wagyu. In experiment 1, subcutaneous (s.c.) adipose tissues (n = 23) were obtained from Japanese cattle representing the five Japanese fat quality grades. The monounsaturated:saturated fatty acid ratio (MUFA:SFA) was greatest in fat quality grade 5 samples (2·57) and least in the fat quality grade 3 samples (2·08; P < 0·05). In experiment 2, M. longissimus dorsi and the associated intramuscular (i.m.) and s.c. adipose tissues were obtained from carcasses of Wagyu crossbred steers (1/2-7/8) raised in the USA. Fatty acid composition varied among depots, but the MUFA:SFA ratio in s.c. adipose tissue (1·46) was not different from values reported for other breeds of cattle. In experiment 3, samples of M. longissimus dorsi ribsteaks were obtained from three regions in Japan. Samples from the Gunma region had the greatest (P < 0·05) MUFA:SFA ratio (2·10), relative to samples from the Kagoshima (1·82) and Miyazaki (1·65) regions. The data indicate that beef from purebred Wagyu cattle raised in Japan is enriched in monounsaturated fatty acids, and that the degree of enrichment depends upon the region of Japan from which the samples were obtained.

END