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# Successful Rearing of Wagyu Calves

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I have been working as a consulting nutritionist for Wagyu producers both in Japan and the U.S. for close to 21 years now. Obviously, I have encountered numerous opinions and various approaches to feeding and managing Wagyu calves. I honestly don't think I've ever observed a single "right" way to successfully raise Wagyu calves and I'm not nearly arrogant enough to claim I know the "right" way or that I have all the answers on this subject. However, I have learned much from both the American and Japanese producers I serve and I firmly believe there are certain basic animal husbandry and management practices that can benefit all Wagyu operations regardless of size, experience, or geographic location.

Prior to addressing basic husbandry and management practices which should be commonplace for all Wagyu producers in how they raise their calves, let me first state that in my personal experience most Wagyu calves cannot be treated or managed like other beef calves. Actually, I have found that a majority of Wagyu calves are often more similar to dairy calves in the care and attention they require. Many Japanese producers actually pull the calves off their dams very early after birth and bottle-raise them until weaning. This practice is also very common in many commercial dairies in both the U.S. and Japan as well. Admittedly, bottle-feeding calves is much more work and is not for everyone, especially here in the U.S., yet I have seen a gradual increase and greater interest in this practice with U.S. Wagyu producers teaming up or contracting with local dairies to bottle-feed and raise their calves until weaning or up to 1-2 months post-weaning. Obviously, this management approach is not feasible for everyone and it is still entirely possible to have a highly successful calf program with calves left on their dams (pasture weaning) as most operations still practice in the U.S. Yet I would propose that this traditional approach to raising beef calves in the U.S. indeed requires additional management for those in the Wagyu business due to overall less hardiness of Wagyu calves and the poorer milking ability of Wagyu dams compared to most other beef breeds. These less than desirable characteristics of Wagyu calves and cows appear to be even more pronounced in those herds with heavy Tajima bloodline influence. If producers do not attempt to compensate for these differences, they typically encounter a higher calf death loss and/or disappointing and inconsistent carcass quality in their harvested calves.

Whether a producer leaves Wagyu calves on their dams or bottle-raises them, there are common calf management practices found among all successful Wagyu operations. These common practices include what I refer to as the 5 C's of a healthy start. These 5 C's include: **Colostrum, Calories, Cleanliness, Comfort, and Consistency.**

**Colostrum**-many of my bottle-raising herds will check their colostrum quality with a colostrometer to ensure newborn calves receive only high quality colostrum with acceptable antibody levels. First calf heifers are notorious for producing lower quality colostrum so their calves are often weaker and less thrifty than those calves born to older cows and as a result calves born to first calf heifers have a higher mortality rate. If you're not into bottle-raising your calves and are in the majority of U.S. producers which pasture wean, you can still ensure your calves receive higher quality colostrum by taking good care of the dam through proper nutrition and a good mineral and vaccination program. Cows with mineral deficiencies produce lower quality colostrum since they are immune-suppressed.
Several minerals and vitamins are critical to a healthy immune system and production of high quality colostrum including phosphorus, selenium, zinc, vitamin A and vitamin E. E. coli scours are the leading cause of death in the U.S. calf herd and as soon as the calf begins nursing and makes contact with the dam's udder, it has inoculated itself with a high concentration of E. coli bacteria. Vaccination of dams with an E. coli vaccine before calving to increase maternal antibodies and their overall colostrum quality works well in minimizing problems with E. coli scours. This practice is even more important in first calf heifers with their significantly lower colostrum quality. Whether bottle-raising or pasture weaning, newborn calves need to ingest colostrum as soon as possible after birth. Colostrum administration via esophageal tube is sometimes necessary in pasture-weaned calves that refuse to nurse or whose dams refuse to let them nurse initially. Commercial colostrum supplements are sometimes needed as well especially in calves born to first calf heifers.

**Calories**-calves should have access to a fresh, high quality starter or creep feed as soon after birth as possible. Creep feeding is a must in pasture-weaned situations since most Wagyu dams simply don't milk that well. Early weaning is also critical in pasture-weaned calves for this same reason. Most top Wagyu producers typically wean calves by 3-4 months and usually no later than 5 months of age. However, the single best criterion for optimal weaning time is not age, but how well the calf is eating. My firm has conducted research which demonstrates that once the calf is consuming at least 2 lbs. of starter grain daily for 3 consecutive days then it is ready to wean. Both creep feeding and early weaning have been proven to lead to a higher quality, heavier marbled carcass. Weather extremes also contribute to additional calories needed by calves and although water does not contain calories, calves eat better, gain more weight, and scour less when fresh water is available. Some Japan producers add water soluble electrolytes to drinking water available to young calves which is an excellent means of preventing dehydration in calves during extreme heat or cold.

**Cleanliness**-baby calves always excel in clean, dry conditions. If cows are brought in before calving, the maternity area must be kept clean and as free of manure as possible. Cows should not be allowed to calve in wet, muddy or dirty areas at any time. If calves are not born in clean, dry conditions then they will be exposed to a variety of disease-causing organisms such as E. coli, Salmonella, and an array of other pathogens. The

outcome will be more sickness and a higher death loss. Keeping drinking water sources clean, fresh and free of debris as the calf matures is critical as well.

**Comfort**-in addition to baby calves having the opportunity to be born in a clean, dry environment, they also need to be ensured shelter from sun and wind. Calves need to be comfortable and this is extremely important in extreme weather conditions. Japanese Wagyu producers are known for treating their calves like a fellow family member much as one would treat a newborn child. Although this is obviously a different mindset than many commercial U.S. beef producers and certainly requires much more intense management, it yields tremendous returns in both reduced calf death loss and maximum meat quality. Recent research has actually pointed out the importance of minimizing stress around time of weaning by utilizing fence-line weaning or self-weaning nose flaps. There are several "marbling windows" in an animal's life in which marbling deposition can be influenced by diet and management. The first of these "marbling windows" is the 60 day period before and after weaning. So, minimizing weaning stress and ensuring calves are eating a high quality feed well during this time represents the first and one of the most important opportunities to impact marbling deposition. Don't fall into the trap that Wagyu only marble towards the end of their lives and that marbling is only the feedlot's responsibility.

**Consistency**-this is very likely the most challenging of the 5 C's. Consistency of newborn protocols and daily management is of utmost importance. Calves should be observed and fed at the same time every day and calf management should ideally be handled by the same person every day. Changes in routine are stressful to calves and calves that are stressed are much more likely to get sick. One of the most pronounced differences I see between Japanese and American Wagyu producers is their consistency of management which in turn affects the consistency of the final product. We have a much broader spectrum of management styles in the U.S. Wagyu industry and until we strive to become more consistent in our approach to managing these wonderful animals at every point in their life cycles we will continue to experience a much more variable product and all the frustrations and challenges that come with it. I realize this is a somewhat general discussion about raising Wagyu calves and I would be glad to discuss any aspect of this article more in depth with you. I'm also more than willing to discuss additional specifics related to nutrition and feeding management of calves. The U.S. beef industry continually struggles to meet a growing demand for highly marbled, high quality beef and Wagyu breeders have a golden opportunity to help meet this demand. The more intensively you can manage your cattle by minimizing stress and by standardizing your approach to nutrition and management, the more likely the U.S. Wagyu industry will be able to "seize the moment."

**Author**
Dr. Jimmy Horner holds a Ph.D. in Ruminant Nutrition from Texas A&M University and a M.S. in Animal Science from Oklahoma State University and has been consulting and teaching animal nutrition for more than 30 years. Dr. Horner is the President/CEO of Protocol Naturals/Protocol Technologies/Horner Industries, Bridgeport, Texas.