

# Producing the Finest Elk Meat

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The elk farming industry has been around for thousands of years, but it has undergone some very rapid changes in recent times. Here in Canada, very strong markets for antler and changes in legislation drove a major expansion of the industry from 1980 to 2000, and created a highly unique situation for North American livestock markets. Elk were so valuable for antler production and breeding stock that no one could afford to process and eat them!

As always, times change. Antler prices are now down dramatically, and the trade restrictions implemented after CWD and BSE reared their ugly heads have severely limited options for selling antler products and livestock. Now is the right time to develop the North American market for elk meat.

European markets for venison and other cervid (deer family) meats have traditionally been strong and sophisticated. Germany alone consumes hundreds of thousands of tonnes of meat from red deer, reindeer, roe deer, fallow deer, elk (similar to our moose) and other breeds of cervids. New Zealand has created a very efficient system combining wild harvest, farm production, process, processing and transport to serve those European markets as well as other emerging opportunities in Asia and North America. Here in Canada, hunters have provided limited opportunities to sample elk meat, but these have not always provided the best quality of product. In fact, many North Americans have a negative view of “venison” or “wild meat” based on poor quality product provided by hunters. Producing and marketing high- quality, tender and tasty meat from farmed elk has been a steep uphill learning experience for all of us!

Through experience and much transfer of knowledge from New Zealand, Europe and elsewhere, Canadian producers have developed the expertise, elk genetics and systems needed to produce some of the finest red meat available any where in the world. Elk is a medium textured, rich tasting and tender meat, which has very little intra- muscular fat (marbling). Fat is deposited outside of and around the muscle tissue, allowing easy trimming and removal. Producers of other livestock might immediately suggest that marbling is essential for tasty and tender meat, but good elk proves that statement to be inaccurate. How, then, do we produce the finest elk meat?

- Regardless of age or gender, the best animals to process for meat are animals that have recently gone through a rapid growth phase - an improvement in body condition with an increase in body fat. With that fact in mind, a producer can calculate which elk would be best at various times of the year. If any elk is "put on feed", which does not necessarily mean straight grain, but must mean adequate quantities and quality of highly palatable and digestible food, for a month or two, it will be a prime candidate for meat. It is better if the elk is somewhat down in condition at the start of the feeding period, to maximize

deposition of new tissue during the weight gain period. This type of management can make elk cows tender and tasty at any time of year, although they are naturally more likely to put on weight from June through to December. Top- quality meat can be produced from cows up to about eight years of age – much older than for most other types of livestock. Bulls naturally put on weight from late winter until the rut starts in September. After that date, they become very focused on concerns other than food, and begin rapidly losing weight. Consequently, the best time period for processing bulls is in late spring and summer, a more restricted time period than for females. The optimum age for processing bulls is also more restricted – generally they must be less than five or six years of age to produce prime meat.

- Young elk gain weight rapidly until they are at least eighteen months old, if feed and management are good. Anytime up to that age is perfect, but calves under a year of age are very tender, mild in flavour, and quite veal- like – a very desirable product for some consumers. Calves are also at a weight (up to 100 kg hanging carcass) that competes nicely with Cervena from New Zealand. In order to successfully market them to the restaurant trade, they must be processed using “venison” styles of cuts, which is different from the North American “steak” style of cutting. They are also more nervous and flighty than older elk and must be handled very carefully or they can have a fairly high incidence of blood splash in the muscles, especially the loins.
- Much has been made of the stress that precedes processing and its impact on meat quality. There is no doubt that the less stress, the better, but the key to minimizing negative impacts on meat quality is excellent management, including optimum body condition and calm, quiet and efficient handling. In many parts of Canada, elk are hauled for up to 10 to 12 hours in a trailer without any adverse effects on the meat quality. Again, these must be " good " animals, not thin or in poor condition.

Experience has taught producers, transporters, processors and others in the meat production chain these key tips and techniques:

- Sort the animals going for processing into one group 7 to 10 days before the date, unless they all come from one established group, so that they are presocialized and not fighting to establish dominance during loading and transportation.
- Minimize transportation time and time in the trailer and holding area. There is absolutely no benefit to the animal or meat quality from standing in a trailer waiting to be unloaded or standing in holding pens before moving to the knocking area.
- Do not overcrowd the animals during hauling. If elk are loaded to the point that they feel “packed in” and can not stand comfortably, they mill and jostle around in the trailer, which increases their stress levels. One telltale sign that they were overcrowded is if they have rub or raw patches on their rumps on each side of the tail.
- Ensure that the plant has adequate facilities for unloading elk and handling them during movement to the knocking box so that they are not further stressed or “on the fight” prior to processing.
- Ensure that the plant employees are familiar with and able to handle elk properly, without the roughness common with cattle, to reduce stress and bruising.
- Ensure that the animals are quickly and adequately stunned. The best method of stunning has proven to be a captive bolt gun on the end of a handle (like an axe handle) about 3

feet long with a trigger at the handle end. These knock elk with a minimum of fuss and distress.

- The rate of cooling applied to the carcass significantly affects the tenderness of animals like elk and buffalo. The meat industry standard - as encouraged by CFIA and Health Inspectors - is to use blast chilling to reduce carcass temperatures to close to 1 degree C as soon as possible. This causes cold shortening of the muscle fibres and reduces tenderness. The optimal cooling method is to hold them at 6 C for 24 hours and then lower it to normal cooler temperatures, but the plants and inspectors are often not very receptive to this approach.
- Aging of lean carcasses such as elk is best done in a heavy-duty vacuum packaged bag. This approach will overcome some of the negative impacts on tenderness mentioned above. Elk is optimally aged in such bags between 10 and 14 days at normal cooler temperatures. As a carcass, it is hard to go much past 7 days in the cooler without unacceptable moisture loss, undesirable drying of the meat and loss of carcass weight. Remember that elk carcasses cannot be handled in the same manner as beef, because they do not have the fat cover that beef generally does.

With access to knowledge gained from other livestock producers and the pressure generated by need, an elk meat production, processing and marketing system has developed very rapidly in North America. If producers learn the tips and techniques presented here, and focus on producing the best quality product, elk will take its place in meat coolers and restaurants everywhere in the US and Canada. Long term, we all must remember that meat of any kind cannot be just a byproduct of the production process. We must not produce just *pounds or kilos* – we must produce the high- quality, tender and tasty product that consumers will seek out and pay a premium price to take home to their families.

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