Good production practices in the feedlot

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Introduction

The Canadian beef cattle industry is committed to delivering quality and safe food products to its customers, both at home and abroad. Quality and safety result in a preferred supplier status and ensure increasing market shares for beef against competing protein sources. Therefore, the industry strives to implement national programs and increase production standards on an ongoing basis to maintain its reputation and ensure Canada's continued international recognition as one of the world's best beef producing nations.

"Canadian Cattlemen — Quality Starts Here!" is a new national program to improve the quality and safety of Canadian beef, and to maximize economic returns from products to all sectors of the industry from pasture to plate. The program is managed by a committee with representatives from the Canadian Cattlemen's Association (CCA), Alberta Cattle Commission, Alberta Cattle Feeders' Association, Ontario Cattlemen's Association, Canadian Animal Health Institute, Canadian Veterinary Medical Association, Canadian Meat Council, Beef Information Centre, Canadian Livestock Marketing Association, Dairy Council of Canada, and Agriculture and Agri-Food Canada. The work of this multistakeholder industry group has led to the consolidation and publishing of a variety of procedures that improve quality and safety. Key to the success of this program is ensuring the extensive distribution of information on a national basis.

The purpose of this article is to introduce veterinarians across Canada to good production practices that have been developed for the feedlot. A checklist for these good production practices is provided below. The Feedlot Good Production Practices Manual (1), which includes the checklist and an appendix with additional information, is available from the CCA office. The appendix, which is not included here because of its size, contains examples of processing and treatment record forms; an explanation of nonconformance factors and associated costs, including an executive summary of the Canadian Beef Quality Audit; drug use and testing information; available drug products; sanitation information and products; feed quality assurance principles; selected regulatory information; and a glossary of terms.

Good production practices are directed at feedlot operators to assist them in the delivery of the highest possible quality product to the processing plants. Standardized procedures will maximize production efficiencies and economic returns through the reduction of nonconformities and of biological, chemical, and physical hazards that affect food safety. Over $189.5 million dollars are lost annually from nonconformities (unpublished data, Canadian Beef Quality Audit). Additionally, food safety has become an important concern for domestic and foreign trade, which was highlighted by the "Jack-in-the-Box" outbreak of *Escherichia coli 0157:H7* in the United States in 1993. All segments of the beef industry have a role to play in the production of safe, high quality, beef products. Veterinarians are in a unique position to help producers achieve this goal, because they can provide useful production information, help to develop and implement quality assurance programs, provide support in solving problems, monitor the effectiveness of programs, verify that programs are working, and help to develop corrective procedures to deal with any deviations from the feedlot's goals. Through the stakeholders working together, Canadian beef will maintain its world renowned status and the industry will prosper.

The feedlot quality assurance and food safety checklist is a guide for producers and veterinarians to monitor the current status and progress in the feedlot on a quarterly or semiannual basis. It is anticipated that many components of the following checklist will become part of a herd health and nutritional program, and that computerized records and individual animal identification will also be in place to monitor the status of the herd.

Similar good production practices will be developed for the cow-calf sector and should be available early next year. The Good Production Practice Checklist is a living

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document, and as more information becomes available, particularly in regard to on-farm risks for food safety, the feedlot and cow-calf checklists and appendices will be updated. This information will be made known to you through various media avenues.

References

1. Van Donkersgoed J, Grogan H, (Canadian Cattlemen's Association). Good Production Practices for the Feedlot. Calgary: Communication Inc., 1996. Available from Canadian Cattlemen's Association, Calgary, Alberta (tel.: (403) 275-8558; fax: (403) 274-5686; e-mail: CCACAL@cadvision.com).

Feedlot Good Production Practices Checklist — June 1996

Procedure	Check	Benefit
1. Procurement of cattle is harmonized:		
a. Ranch direct purchasing has been utilized as much as possible	_____	— Reduce stress, disease, injury, and associated treatment costs, and nonperformance
b. Purchase from suppliers with a quality assurance program meeting your standards	_____	— Reduce extra handling and transportation — Improve consistency of cattle entering the feedlot
c. Use livestock transporters committed to the safe hauling of cattle	_____	— Raise level of knowledge, improve management, and reduce nonconformities
d. Improve delivery and purchase schedules to avoid over-loading receiving crew	_____	— Improve quality by facilitating information transfer back to cow-calf sector to provide a specific product that meets market needs — Allow more accurate record keeping and traceback
2. Preventive herd health management is in place:		
a. Ongoing veterinarian/producer relationship	_____	— Improve herd health and production efficiency, and lower costs
b. Record system for health and production indices	_____	
c. Unique and permanent individual animal identification	_____	— Reduce ineffective drug treatment, and unnecessary drug costs
d. Standardized vaccination, parasite, and treatment programs	_____	— Reduce biological, chemical, and physical hazards that affect food safety
e. Nutritional program and GMP's for feed	_____	
f. Animals maintained in clean, healthy environment free from undue stress or hardship	_____	— Reduce losses from tag ($10–50 per head), brands ($5–10 per head), warbles (hides, trim up to $150 per head), injection sites (reduce yield up to 10 lb per head), bruising ($3.92 per head), liver abscesses (up to $20 per head), dark cutters (up to $200 per head), and downers (entire carcass condemned)
g. Adequate pens and handling facilities	_____	
h. Personnel training program for animal handling, diagnostics, pharmaceutical practices, feeding, bunk management, premise and equipment, sanitation, waste disposal, record keeping	_____	— Reduce occurrence of broken and lost needles
3. Individual animals are uniquely and permanently identified:		
a. All animals in the feedlot are uniquely identified on arrival	_____	— Accurate record keeping and traceback reduce hazards from entering the food chain
b. Cattle arriving at a feedlot should ideally have documentation and identification from the previous owner that includes history records	_____	— Alternatives to hot-iron branding reduce hide damage losses of $5–10 per head
4. Vaccination and treatment procedures and protocols are in place:		
a. You and your veterinarian have designed a vaccination and treatment schedule specific to your herd	_____	— Reduce risk of disease and cost of treatment — Reduce injection sites (trim), chemical hazards (residues), and physical hazards (broken needles)
b. Pharmaceutical products are stored according to label directions and an accurate inventory is kept of pharmaceutical products on hand and their expiration dates; outdated pharmaceutical products and unused portions are disposed of properly	_____	
c. Vaccines and antimicrobials are given in the neck and subcutaneously if label directions permit	_____	
5. Implanting/reimplanting procedures/protocols are in place:		
a. You and your veterinarian have selected an implant regime	_____	— Maximize efficacy and reduce negative side-effects, such as bullers (cause bruising, downers, dark cutters), and drug residues
b. You and your veterinarian have trained staff on proper implant techniques	_____	
c. Implant checks are conducted on a regular basis to monitor technique	_____	
6. Castration and dehorning:		
a. You and your veterinarian have determined the optimal method of castration and dehorning	_____	— Castration reduces dark cutters and fighting of bulls, which causes bruising
b. Prophylactic drugs are used to reduce infections when necessary; drug records are kept to avoid residues; cattle are polled or dehorned to reduce bruising (trim)	_____	— Proper technique reduces postcastration infections — Castration reduces risk that cattle grade staggy (grade E with $25/cwt discount)

Feedlot Good Production Practices Checklist — June 1996 (*continued*)

Procedure	Check	Benefit
		— Dehorning cattle reduces risk of bruising twofold and reduces packers' costs from condemned heads due to hair contamination of sinuses and associated labor costs
7. A parasite control program has been developed in consultation with your herd veterinarian	____	— Improve performance and reduce hide damage from insects and grubs ($10–50 per head)
8. Adequate feedbunk management is ensured:		
a. Together with your veterinarian and nutritionist you have developed rations and monitor feedbunk management	____	— Animal welfare issues are addressed — Maximize performance and production efficiency — Reduce acidosis and liver abscesses (losses up to $20 per head), and tag (losses up to $10–50 per head)
b. Keep bunks current and monitor frequently; adjust rations according to bunks, cattle behavior and weather patterns	____	— Minimize waste — Provide a constant plane of nutrition
c. Feed is given at the same time every day	____	— Reduce dietary stress, which may, in turn, reduce fecal *Escherichia coli* and *Salmonella* spp. (and improve food safety)
d. Feed monitoring information is communicated back to the feedlot office and the feed truck driver		
e. Feed is delivered correctly, there is consistency mix, and it is distributed evenly in the bunk	____	— Reduce bruising
f. There is adequate bunk space per head to optimize consumption (10 inches of linear bunk space per animal).	____	
g. Bunks are narrow enough so calves and feeders can reach all the feed	____	
9. Adequate feeding/water/bedding is ensured (NRC):		
a. Quality of feeds and water has been tested		— Ensure feed and water quality
b. Water trough space per head is 1.2 linear inches or greater	____	— Maximize performance — Reduce hidden costs
c. Water bowls are checked daily and cleaned regularly to avoid algae buildup	____	— Reduce chemical residue risk in feed — Reduce tag
d. Together with your veterinarian you have determined feed medications needed, if any		
e. Feedlot pens and facilities are dry and clean		
f. Feeds are purchased from suppliers who follow good management practices and are certified free of hazards through the Feeds Act or by communication between parties	____	
g. Good manufacturing practices for feed have been developed for the feedlot and are standardized, written, monitored, and verified daily	____	
10. Sorting and mixing practices are kept to a minimum	____	— Reduce spread of infectious agents — Reduce stress, which reduces disease and associated treatment costs — Reduce bruising, dark cutters, and injury (from handling and fighting to re-establish social dominance); thus less trim losses at the packing plant and downgrading of carcasses
11. You have initiated and established a valid veterinarian/producer relationship which takes into account the risk and accountability in producing a food product:		
a. Only approved pharmaceutical products are used (Bureau Veterinary Drugs)	____	— Avoid drug residues — Reduce injection site lesions (loss $9.70 per head)
b. Extra-label use of pharmaceutical products is avoided; drugs are to be used according to label directions		— Maximize drug efficiency — Reduce animal losses due to handling and bruises (trim)
c. Standard treatment protocols are developed by a veterinarian and endorsed/maintained by staff	____	— Reduce treatment costs — Records ensure traceback and evaluate treatment efficacy
d. Treatment protocols are monitored, action plan for deviations developed, and deviations are corrected immediately	____	— Raise level of knowledge — Ensure animal welfare
e. Use of ancillary drugs is avoided unless prescribed by herd veterinarian	____	
f. Proper animal handling techniques and equipment are used when treating animals	____	
g. Accurate and up-to-date treatment records are kept; supervisors and herd veterinarians monitor records and correct deviations	____	
h. All withdrawal times are adhered to; zero withdrawal drugs are used in the last 50 days of feeding; otherwise treated animals are segregated until zero withdrawal	____	

Feedlot Good Production Practices Checklist — June 1996 (*concluded*)

Procedure	Check	Benefit
i. Outdated pharmaceutical products are not used and properly discarded	_____	— Ensure drug potency, avoid reactions from breakdown products from drug
j. Products are selected that are low volume, long-acting, and can be given subcutaneously if label permits	_____	
k. Pharmaceutical products are injected in lower value cuts, such as the neck; avoid thigh and rump at all costs	_____	
l. Pharmaceutical products are stored according to label directions in a specified separate sanitary area and kept away from temperature extremes (also during transit); refrigerators that store pharmaceutical products and vaccines are monitored for temperature; open bottles are stored in a manner to prevent contamination and avoid growth of microorganisms; pharmaceutical products inventory is kept current and drugs are inspected on arrival; record lot #, expiry date, and dates used	_____	— Ensure pharmaceutical products potency and effectiveness
m. Drug reactions are recorded and herd veterinarian contacted, who fills out forms for Bureau Veterinary Drugs and submits to Ottawa	_____	
n. You and your veterinarian have determined how to prevent downers and chronics and how to manage those that occur	_____	— Ensure animal welfare
12. Ongoing education of all your staff to:		
a. Understand the biological, physical, and chemical hazards associated with feeding cattle	_____	— Cost savings associated with familiarity of disease, treatment and control, and nutrition to ensure animal health, welfare, productivity, beef quality assurance, and food safety
b. Understand the difference between over the counter (OTC) and prescription (Pr) pharmaceutical products and pharmaceutical products terms	_____	
c. Understand the legal liability with extra-label use of drugs	_____	
d. Understand the benefits related to herd health and nutrition programs, and the effect of nonconformance factors on productivity costs	_____	
e. Understand the importance of accurate and complete record keeping, and unique individual animal identification	_____	
f. Understand the importance of humane animal treatment and animal welfare	_____	
g. Understand the importance of sanitation and hygienic practices	_____	
h. Understand industry needs and consumer expectations	_____	
i. Understand their role in beef quality assurance and food safety	_____	
j. Understand the importance of beef quality assurance and food safety in marketing and trade	_____	
k. Become familiar with critical elements, the importance of monitoring operations, and the action they must take if standards are not met	_____	

INSTRUCTIONS: KEEP COPY OF SIGNED CHECKLIST POSTED IN TREATMENT AREA WITH RECORDS.

NEXT BEEF QUALITY ASSURANCE AND FOOD SAFETY REVIEW DATE _____