

1 *Improving animal health and welfare through industry education and quality assurance*
2 *programs*

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8 **Abstract**

9 Veterinarians profess an obligation and oath to uphold the protection of animal health and
10 welfare through the prevention and relief of animal suffering. When caring for animals destined
11 for the food supply, veterinarians practicing on livestock have further responsibilities in food
12 safety and public health. With emerging and ongoing concerns from meat and milk customers
13 and consumers pertaining to animal welfare, veterinarians play a key role in producer and
14 employee education to ensure proper care is provided. Verifying practices are being completed is
15 another step where veterinarians can have a positive impact on everyday animal welfare and the
16 quality of the end product. Producer education is a valuable tool for veterinarians in all sectors of
17 the cattle industry. Industry programs focusing on quality assurance and protocols in areas of
18 animal care and worker safety are integrated into veterinary medicine and the livestock industry
19 already. Learn about these cattle care standards that affect animal health and welfare and how
20 veterinarians can integrate the programs into their practice. Standards from AABP, Beef Quality
21 Assurance (BQA), National Dairy Farmers Assuring Responsible Management (FARM)
22 program, and Calf Care & Quality Assurance (CCQA) will be reviewed.

23

24 **Key Words**

25 Welfare, National Dairy FARM Program, Calf Care & Quality Assurance, CCQA, Beef Quality
26 Assurance, BQA, producer education, veterinarian

27

28 **Introduction**

29 Animal welfare plays an important role in the cattle industry and all of agriculture. Assessing
30 animal welfare and seeking improvements are the responsibility of all cattle caretakers and
31 especially the veterinarian. Several stakeholders are invested in cattle health and welfare – the
32 animals, veterinarians and producers, supply chain, and consumers. Customers and consumers of
33 animal meat and milk products have shown increased interest in how animals are raised and
34 grown.^{7,10} Other groups, such as animal action groups, ask consistently about animal welfare
35 standards in animal agriculture. A proactive solution to these concerns is following industry led
36 guidelines on animal care and welfare that covers the cattle through all sectors of the
37 industry. Quality assurance programs have become commonplace for all food-producing
38 enterprises as a means to build consumer confidence that their food is ethically and responsibly
39 produced.

40

41 For example, according to consumer market research conducted by the National Cattlemen’s
42 Beef Association (NCBA) on behalf of the Beef Checkoff, consumer perceptions about beef
43 production are strong overall, with nearly 70% of respondents claiming a positive view on
44 beef.^{7,10} When asked to describe any concerns related to beef cattle production, of the 52% of
45 respondents who claimed to have a concern, animal welfare was mentioned the most. Only 12%
46 of respondents mentioned the environment as causing a concern, which suggests that consumers

47 are more concerned with animal welfare than environmental concerns related to cattle
48 production. Consumers have also claimed that they believe veterinarians and producers to be a
49 highly credible source of information when it comes to production practices. This highlights the
50 importance of industry programs and the emphasis producers place on animal care and welfare,
51 and this extends to other livestock industries.

52
53 Industry programs in all livestock sectors have an animal care program which can be voluntary
54 or mandatory, depending on the program. Assessments or audits by second or third parties helps
55 uphold the standards within the industry programs. These programs provide many educational
56 resources and templates for producers and veterinarians to use as a model for continuous
57 improvement in areas across the operation, from herd health to euthanasia decisions to employee
58 training. The vast majority of customers and consumers expect a standard to be set, adhered to,
59 and followed. Industry programs and organizations like the American Association of Bovine
60 Practitioners (AABP)¹, Beef Checkoff-Funded Beef Quality Assurance (BQA)³, National Dairy
61 Farmers Assuring Responsible Management (FARM) program⁸, and Calf Care & Quality
62 Assurance (CCQA)⁴, also funded by the Beef Checkoff, have set those standards for producers to
63 follow. These programs provide avenues for continuous improvement while mitigating risks due
64 to employee education and process documentation. Quality assurance is consistent across the
65 sectors of the cattle industry as these programs continue to evolve. Additionally, implementing
66 these programs and guidelines can help veterinarians and producers avoid costly production
67 mistakes and improve employee education and awareness, leading to improved human and calf
68 safety.

69

70 Other quality assurance or auditing programs are led by industry or private entities and may be
71 customer owned. These programs also include assessments, standards, and audits that producers
72 adhere to for access to a particular market. While those programs are valuable, they will not be
73 covered here.

74

75 **American Association of Bovine Practitioners**

76 The American Association of Bovine Practitioners (AABP) is an international association
77 composed of over 5,000 veterinarians, veterinary technicians, and veterinary students interested
78 in bovine (cattle) medicine¹. The mission of the AABP is to provide support, continuing
79 education, and advocacy for current and future veterinary professionals and the cattle they serve.
80 The vision of AABP is to serve society as leaders in cattle health, welfare, and productivity.

81

82 AABP guidelines and position statements are publicly available and serve to provide the
83 expertise of our organization on a variety of topics of importance to cattle veterinarians and the
84 dairy and beef industries. Guidelines and position statements are reviewed on a periodic basis
85 following a member comment period, by relevant committees and approved by the AABP Board
86 of Directors. Guidelines provide a detailed “how-to” guide for various topics and procedures.
87 Position statements are used for advocacy to reflect the organization’s stance on a particular
88 topic.

89

90 Veterinarians can access these guidelines and position statements as reference material or for
91 teaching purposes with their clients. For instance, practical guidelines on castration or dehorning
92 practices are available in English and Spanish, allowing for proper teaching and information

93 sharing to workers whose first languages is not English. Industry organizations like the FARM,
94 BQA, and CCQA programs align with AABP and their guidelines to ensure continuity across the
95 programs. AABP Committees also provide valuable resources to AABP members. Any AABP
96 member may join a committee for a three-year term and contribute to the charge of their
97 respective committees. For instance, the AABP Vaccination Guidelines were developed and
98 approved in 2021 as a resource for member veterinarians in understanding vaccine technologies
99 and strategies for vaccinating a particular group of cattle. Veterinarians can get involved with
100 AABP through committees, contacting their District Director, or connecting with schools of
101 veterinary medicine or veterinary technology colleges.

103 **Beef Quality Assurance Program**

104 In the 1990's, industry groupstook initiative in developing voluntary safety and quality assurance
105 programs for *pre-harvest* segments of the industry which resulted in the Beef Checkoff-funded
106 National Beef Quality Audit (NBQA).^{6,9} Conducted approximately every five years since 1991,
107 the NBQA is a comprehensive survey that evaluates beef industry efforts to improve beef
108 quality. Results of this survey provided the platform for the BQA Program and highlight what
109 management tools could be applied to improve beef quality, food safety, and beef
110 production.^{3,6,9}The NBQA allows the beef industry to evaluate progress and assess areas of
111 emphasis for the BQA program. It serves as a beef industry “scorecard” and tracks where we are
112 as an industry as it relates to beef quality.

113
114 Across the beef supply chain, companies are seekingcattle producers and business partners that
115 demonstrate similar, more consistent management philosophies, further ensuring the safety and

116 quality of products leaving their facilities. Adoption of BQA principles helps position cattle
117 raisers to take advantage of these opportunities. Additionally, implementing BQA can help
118 producers avoid costly production mistakes and unacceptable production defects. Participation in
119 the BQA program is one way to show customers, whether they are cattle buyers or beef
120 consumers, that producers take every possible step to raise beef responsibly. Seen as a total
121 management system, each aspect of a BQA program is economically logical and part of good
122 business management.

123
124 The goal of the Beef Checkoff-funded national Beef Quality Assurance (BQA) program is to
125 enhance the desirability of beef by educating producers and veterinarians on best management
126 practices that improve economic sustainability of farms and ranches and provide consumers with
127 a safe and wholesome beef supply.³The nationally coordinated, state implemented program
128 partners with state BQA programs across the country who organize and execute BQA training
129 and certification opportunities in their state, providing systematic information to U.S. beef
130 producers of how good husbandry techniques can be coupled with accepted scientific knowledge
131 to raise cattle under optimum management conditions. Online BQA training is also available and
132 provides 24/7 access to the program. Fouronline courses are available (cow/calf,
133 stocker/backgrounder, feedyard, and BQA Transportation) to deliver a program that most closely
134 aligns with the individual's operation and goals. Spanish translation of materials continues to be
135 a driving factor in new teaching initiatives. Throughout the country hundreds of thousands have
136 now become BQA-certified through in-person and online training, with an estimated 85 percent
137 of the U.S. fed beef supply now sourced from operationswith BQA certified management.

138

139 The BQA program has partnered with other industry initiatives and recognizes equivalency with
140 the FARM program⁸ for dairy producers, the Youth for the Quality Care of Animals program
141 (YQCA)¹⁵ which reaches 4-H, FFA, and youth producers with a multispecies quality assurance
142 program curriculum, Verified Beef Production Plus (VBP+)¹³ program in Canada, and the
143 CCQA⁴ program which focuses on the calf raising sector.

144
145 In 2020, the BQA program received important international distinction from the U.S.
146 Department of Agriculture (USDA) regarding the program's animal welfare standards. The
147 USDA reviewed and certified that the BQA program complies with the International
148 Organization for Standardization (ISO) Animal Welfare Management/General Requirements and
149 Guidance for Organizations in the Food Supply Chain² and meets World Organization for Animal
150 Health (WOAH)¹⁴ standards on animal welfare. Producers and veterinarians adhering to BQA
151 animal care and welfare guidelines, collectively show the US cattle industry's commitment to
152 advancing animal welfare which increases trust in the industry from a domestic and international
153 standpoint. The Professional Animal Auditor Certification Organization (PAACO) uses these
154 BQA standards in their certified feedyard audit and auditing tools.¹¹

155
156 Veterinarians can collaborate with state BQA coordinators for producer trainings or workshops
157 or can become trainers themselves. The BQA program has produced many new training and
158 certification modules and several user-friendly resources that can be used by veterinarians.²
159 Veterinarians serve as key assets for producers with advising on many aspects of the operation
160 such as animal health and welfare, nutrition, biosecurity, and general consulting questions. These

161 BQA resources can serve as a template for evaluating the operation’s activities and discovering
162 potential areas of improvement. All resources and information can be found at www.bqa.org.

163

164 **National Dairy Farmers Assuring Responsible Management Program**

165 Created by the National Milk Producers Federation (NMPF) in partnership with Dairy
166 Management Inc., FARM helps ensure the success of the entire industry by demonstrating that
167 U.S. dairy farmers are committed to producing the best milk with integrity. Through five
168 program areas – Animal Care, Antibiotic Stewardship, Biosecurity, Environmental Stewardship,
169 and Workforce Development – FARM works with dairy farmers cooperatives, processors,
170 veterinarians, and industry partners to show customers and consumers that the dairy industry
171 holds itself to the highest standards.⁸

172

173 The FARM Program works with cooperatives and processors to participate in the program on
174 behalf of their member farms. Science-based standards are developed by subject matter experts,
175 including farmers and veterinarians, reviewed by committees, and finalized with NMPF board of
176 directors’ approval. In the field, trained and certified Evaluators conduct second-party
177 evaluations to identify progress and continuous improvement opportunities. Verifiers can
178 conduct third-party verifications for only Animal Care areas. With this aggregated data,
179 cooperatives and processors can communicate progress with customers and consumers.

180

181 Every three to five years, the Animal Care standards will be refined. FARM Version 5 was
182 released this year after some lag time due to the pandemic. Farmers, veterinarians, and industry

183 partners can find information on the website pertaining to protocol development, worker training,
184 and guides for subjects like antibiotic stewardship or biosecurity.

185
186 The FARM program is also internationally recognized through the ISO Certification and meets
187 the WOAHS Standards on Animal Welfare and Dairy Cattle Welfare.² This adds a layer of
188 credibility to FARM and is important for exports and customer relations. A system that is
189 outcome based and not prescriptive provides flexibility in developing care programs on each
190 operation, while adhering to a higher standard. FARM has pursued and achieved PAACO
191 certification to make sure brands understand that FARM meets the same certifications.

192
193 Veterinarians are an essential part of the on-farm support management team serving as trusted
194 advisors for FARM and FARM participants (cooperatives and processors). While cooperatives
195 and processors offer a variety of templates and fillable protocols, veterinarians may use their
196 own protocols to meet standards. Dairy farms should work alongside of their veterinarian to
197 create documentation that accurately captures specific farm practices. Veterinarians can also
198 become an evaluator or auditor. To become more familiar with the program standards and access
199 resources, see their website at www.nationaldairyfarm.com.

200

201 **Calf Care & Quality Assurance**

202 The cattle industry is incredibly diverse in the types of cattle, operations, and products it
203 produces. Healthy cattle are the foundation of every cattle operation, from beef to dairy to veal.
204 While the existing cattle quality assurance programs apply to much of the U.S. cattle industry,
205 the industry is evolving and diversifying. The emergence of dairy, beef, contract heifer raising

206 facilities, and calf ranches represent aspects of the cattle production system that currently fall
207 outside of existing programs. As no single organization or program covers all calves, to ensure
208 optimal health and welfare throughout the supply chain, Beef Quality Assurance (BQA)³, Veal
209 Quality Assurance (VQA)¹², National Dairy Farmers Assuring Responsible Management
210 (FARM)⁸, and Dairy Calf and Heifer Association (DCHA)⁵ have joined together to
211 collaboratively create a new streamlined program for calf care and management, the Calf Care &
212 Quality Assurance Program (CCQA)⁴.

213
214 Recognizing the complexities of employee training and education, CCQA has multiple avenues
215 that learners can access information. Calf raisers can become CCQA-certified through in-person
216 and online training. Certification modules are available in both English and Spanish and the
217 program has seen much interest in bilingual in-person trainings. Instrumental in this education
218 are several user-friendly resources available to cattle producers and veterinarians produced by
219 the CCQA program. These important learning subjects provide onboarding training for new
220 employees, especially if they are not familiar with the calf raising industry or evaluating health in
221 calves.

222
223 Integrating the internationally recognized animal welfare standards of BQA and FARM into
224 CCQA was intentional, to continue showing the US cattle industry's commitment to advancing
225 animal welfare at all stages of production. Veterinarians can become a CCQA instructor to certify
226 workers on calf raising facilities or use as teaching topics. Utilizing the second or third party
227 assessment can also guide continuous improvement. To learn more about the CCQA program,
228 and its producer friendly educational resources, visit www.CalfCareQA.org.

229

230 **Conclusion**

231 Across the beef and dairy supply chains, companies are seeking cattle producers and business
232 partners that demonstrate similar, more consistent management philosophies, further ensuring the
233 safety and quality of products leaving their facilities. Veterinarians serve as key assets for
234 producers by advising on many aspects of the operation such as animal health and welfare,
235 nutrition, biosecurity, and general consulting questions.

236

237 Veterinarians can use these industry resources to build on new or existing producer relationships
238 to enhance the care and productivity of the operation. Several resources developed by the AABP,
239 BQA, FARM, and CCQA are available for producers, veterinarians, and transporters to review
240 for more information on cattle welfare. These opportunities not only add value to your practice,
241 but they also reinforce livestock veterinarians' dedication to healthy animals and a safe food
242 supply.

243

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