

REFERENCES

- Animal Welfare Institute. (2021). Overview of U.S. animal welfare laws. <https://awionline.org>
- Appuhamy, J. A. D. R. N., Judy, J. V., Kebreab, E., & Kononoff, P. J. (2016). Prediction of drinking water intake by dairy cows. *Journal of Dairy Science*, 99(9), 7191–7205. <https://doi.org/10.3168/jds.2016-11623>
- Bach, A., Calsamiglia, S., & Stern, M. D. (2005). Nitrogen metabolism in the rumen. *Journal of Dairy Science*, 88(E. Suppl.), E9–E21. [https://doi.org/10.3168/jds.S0022-0302\(05\)73133-7](https://doi.org/10.3168/jds.S0022-0302(05)73133-7)
- Baker, L. M., Malmuthuge, N., & Guan, L. L. (2022). Review: The effects of dietary yeast and yeast-derived extract supplementation on rumen microbiota and fermentation in ruminants. *Animal Feed Science and Technology*, 293, 115441. <https://doi.org/10.1016/j.anifeedsci.2022.115441>
- Baldwin, R. (2012). Regulatory protectionism, developing nations, and a two-tier world trade system. *The World Economy*, 35(11), 1427–1443. <https://doi.org/10.1111/j.1467-9701.2012.01491.x>
- Beauchemin, K. A., Ungerfeld, E. M., Eckard, R. J., & Wang, M. (2020). Review: Fifty years of research on rumen methanogenesis: Lessons learned and future challenges for mitigation. *Animal*, 14(S1), s2–s16. <https://doi.org/10.1017/S1751731119003100>
- Beede, D. K. (2012). What will our ruminants drink? *Animal Frontiers*, 2(2), 36–43. <https://doi.org/10.2527/af.2012-0030>
- Ben Salem, H., & Smith, T. (2008). Feeding strategies to increase small ruminant production in dry environments. *Small Ruminant Research*, 77(2–3), 174–194. <https://doi.org/10.1016/j.smallrumres.2008.03.008>
- Berckmans, D. (2017). General introduction to precision livestock farming. *Animal Frontiers*, 7(1), 6–11. <https://doi.org/10.2527/af.2017.0102>
- Bergman, E. N. (1990). Energy contributions of volatile fatty acids from the gastrointestinal tract in various species. *Physiological Reviews*, 70(2), 567–590. <https://doi.org/10.1152/physrev.1990.70.2.567>
- Blandford, D., Bureau, J. C., Fulponi, L., & Henson, S. (2002). Potential implications of animal welfare concerns and public policies in industrialized countries for international trade. *European Review of Agricultural Economics*, 29(4), 451–473. <https://doi.org/10.1093/erae/29.4.451>
- Broom, D. M. (1991). Animal welfare: Concepts and measurement. *Journal of Animal Science*, 69(10), 4167–4175. <https://doi.org/10.2527/1991.69104167x>

- Broom, D. M. (2010). Animal welfare: An aspect of care, sustainability, and food quality required by the public. *Journal of Veterinary Medical Education*, 37(1), 83–88. <https://doi.org/10.3138/jvme.37.1.83>
- Broom, D. M. (2011). A history of animal welfare science. *Acta Biotheoretica*, 59(2), 121–137. <https://doi.org/10.1007/s10441-011-9123-3>
- Broom, D. M. (2019). Animal welfare complementing or conflicting with other sustainability issues. *Applied Animal Behaviour Science*, 219, 104829. <https://doi.org/10.1016/j.applanim.2019.06.002>
- Calsamiglia, S., Busquet, M., Cardozo, P. W., Castillejos, L., & Ferret, A. (2007). Invited review: Essential oils as modifiers of rumen microbial fermentation. *Journal of Dairy Science*, 90(6), 2580–2595. <https://doi.org/10.3168/jds.2006-644>
- Cardot, V., Le Roux, Y., & Jurjanz, S. (2008). Drinking behavior of lactating dairy cows and prediction of their water intake. *Journal of Dairy Science*, 91(6), 2257–2264. <https://doi.org/10.3168/jds.2007-0714>
- Cattaneo, L., Lopreiato, V., Piccioli-Cappelli, F., Trevisi, E., & Minuti, A. (2023). Effect of supplementing live *Saccharomyces cerevisiae* yeast on performance, rumen function, and metabolism during the transition period in Holstein dairy cows. *Journal of Dairy Science*, 106(8), 5607–5623. <https://doi.org/10.3168/jds.2022-23046>
- Ceballos, M. C., Sant’Anna, A. C., Boivin, X., Costa, F. O., Carvalhal, M. V. L., & Paranhos da Costa, M. J. R. (2018). Impact of good practices of handling training on beef cattle welfare and stockpeople attitudes and behaviors. *Livestock Science*, 216, 24–31.
- Chase, L. E., & Fortina, R. (2023). Environmental and economic responses to precision feed management in dairy cattle diets. *Agriculture*, 13(5), 1032. <https://doi.org/10.3390/agriculture13051032>
- Chaucheyras-Durand, F., Walker, N. D., & Bach, A. (2008). Effects of active dry yeasts on the rumen microbial ecosystem: Past, present and future. *Animal Feed Science and Technology*, 145(1–4), 5–26. <https://doi.org/10.1016/j.anifeedsci.2007.04.019>
- Chen, M., & Weary, D. M. (2022). “Cattle welfare is basically human welfare”: Workers’ perceptions of ‘animal welfare’ on two dairies in China. *Frontiers in Veterinary Science*, 8, Article 808767. <https://doi.org/10.3389/fvets.2021.808767>
- Clark, B., Stewart, G. B., Panzone, L. A., Kyriazakis, I., & Frewer, L. J. (2017). A systematic review of public attitudes, perceptions and behaviours towards production diseases associated with farm animal welfare. *Journal of Agricultural and Environmental Ethics*, 30(3), 455–478. <https://doi.org/10.1007/s10806-017-9680-x>
- Coleman, G. J., Hemsworth, P. H., Hay, M., & Cox, M. (2014). Training to improve stockperson beliefs and behaviour towards livestock enhances welfare and productivity. *Revue Scientifique et Technique (OIE)*, 33(1), 131–137.

- Cook, N. B. (2020). A review of the design and management of dairy cow housing. *Veterinary Clinics of North America: Food Animal Practice*, 36(3), 531–547. <https://doi.org/10.1016/j.cvfa.2020.07.001>
- Cook, N. B., & Nordlund, K. V. (2007). The influence of the environment on dairy cow behavior, claw health and herd lameness dynamics. *Veterinary Journal*, 176(1), 32–43.
- Costa, J. H. C., Meagher, R. K., von Keyserlingk, M. A. G., & Weary, D. M. (2016). Early pair housing increases solid feed intake and weight gains in dairy calves. *Journal of Dairy Science*, 99(1), 638–646. <https://doi.org/10.3168/jds.2015-9395>
- Council Directive 98/58/EC of 20 July 1998 concerning the protection of animals kept for farming purposes. *Official Journal of the European Communities*, L 221, 23. <http://data.europa.eu/eli/dir/1998/58/oj>
- Council of the European Union. (2008). Council Directive 2008/119/EC of 18 December 2008 laying down minimum standards for the protection of calves. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32008L0119>
- Council of the European Union. (2009). Council Regulation (EC) No 1099/2009 of 24 September 2009 on the protection of animals at the time of killing. *Official Journal of the European Union*, L 303, 1–30.
- da Silva, H. M., Lapierre, H., Silva, F. F., da Silva, B. C., McBride, B. W., France, J., & Ellis, J. L. (2023). A new protein requirement system for dairy cows. *Journal of Dairy Science*, 106(4), 2763–2782. <https://doi.org/10.3168/jds.2022-22362>
- Dawkins, M. S. (2004). Using behaviour to assess animal welfare. *Animal Welfare*, 13(S1), S3–S7.
- de Vries, M., Bokkers, E. A. M., van Schaik, G., Botreau, R., Engel, B., Dijkstra, T., de Boer, I. J. M., & van der Zijpp, A. J. (2013). Evaluating results of the Welfare Quality multi-criteria evaluation model for classification of dairy cattle welfare on farms. *Journal of Dairy Science*, 96(10), 6264–6273.
- EFSA Panel on Animal Health and Welfare (AHAW), Nielsen, S. S., Alvarez, J., Bicout, D. J., Calistri, P., Canali, E., Drewe, J. A., Garin-Bastuji, B., Gonzales Rojas, J. L., Gortázar Schmidt, C., Herskin, M., Michel, V., Miranda Chueca, M. Á., Padalino, B., Pasquali, P., Roberts, H. C., Spoolder, H., Velarde, A., Viltrop, A., Winckler, C., ... Ashe, S. (2020). Welfare of cattle at slaughter. *EFSA Journal*, 18(11), e06275. <https://doi.org/10.2903/j.efsa.2020.6275>
- EFSA. (2012). Animal welfare scientific opinions.
- Enemark, J. M. D. (2008). The monitoring, prevention and treatment of sub-acute ruminal acidosis (SARA): A review. *Veterinary Journal*, 176(1), 32–43. <https://doi.org/10.1016/j.tvjl.2007.12.021>

- European Commission. (2016). Special Eurobarometer 442: Attitudes of Europeans towards animal welfare. European Union.
- European Commission. (2020). A Farm to Fork Strategy for a fair, healthy and environmentally-friendly food system. European Commission. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52020DC0381>
- European Commission. (2022). Animal welfare in the European Union. https://food.ec.europa.eu/animals/animal-welfare_en
- European Commission. (2023). Animal welfare during transport. Directorate-General for Health and Food Safety.
- European Commission. (2023). EU animal welfare legislation. Directorate-General for Health and Food Safety.
- European Commission. (2026). EU animal welfare legislation. European Commission. https://food.ec.europa.eu/animals/animal-welfare/eu-animal-welfare-legislation_en
- European Court of Auditors. (2023). Transport of live animals in the EU: Challenges and opportunities (Review No. 03/2023).
- European Food Safety Authority (EFSA). (2011). Scientific opinion concerning the welfare of animals during transport. EFSA Journal, 9(1), 1966. <https://doi.org/10.2903/j.efsa.2011.1966>
- European Food Safety Authority (EFSA). (2012). Guidance on risk assessment for animal welfare. EFSA Journal, 10(1), 2513. <https://doi.org/10.2903/j.efsa.2012.2513>
- European Food Safety Authority (EFSA). (2012). Scientific opinion on the welfare of cattle kept for beef production. EFSA Journal, 10(5), 2669. <https://doi.org/10.2903/j.efsa.2012.2669>
- European Food Safety Authority (EFSA). (2012). Scientific opinion on the use of animal-based measures to assess welfare of dairy cows. EFSA Journal, 10(1), 2554. <https://doi.org/10.2903/j.efsa.2012.2554>
- European Food Safety Authority (EFSA). (2020). Welfare of cattle during transport. EFSA Journal, 18(12), e06309. <https://doi.org/10.2903/j.efsa.2020.6309>
- European Food Safety Authority (EFSA). (2022). Welfare of cattle during transport. EFSA Journal, 20(9), e07442. <https://doi.org/10.2903/j.efsa.2022.7442>
- European Food Safety Authority (EFSA). (2023). Welfare of dairy cows. EFSA Journal, 21(5), e07993. <https://doi.org/10.2903/j.efsa.2023.7993>
- European Medicines Agency (EMA). (2021). Antimicrobial use in animals.
- European Union. (2005). Council Regulation (EC) No 1/2005 on the protection of animals during transport and related operations. Official Journal of the European Union.
- European Union. (2005, 2008, 2009). Relevant animal welfare regulations.

- European Union. (2008). Council Directive 2008/119/EC laying down minimum standards for the protection of calves. Official Journal of the European Union.
- Farm Animal Welfare Council (FAWC). (2009). Farm animal welfare in Great Britain: Past, present and future.
- FDA. (2021). Use of antimicrobials in food animals.
- Flint, H. J., Bayer, E. A., Rincon, M. T., Lamed, R., & White, B. A. (2008). Polysaccharide utilization by gut bacteria: Potential for new insights from genomic analysis. *Nature Reviews Microbiology*, 6(2), 121–131. <https://doi.org/10.1038/nrmicro1817>
- Food and Agriculture Organization of the United Nations (FAO). (2019). Animal welfare and sustainable livestock systems. <https://www.fao.org/3/ca5790en/ca5790en.pdf>
- Food and Agriculture Organization of the United Nations (FAO). (2019). Sustainable livestock production and animal welfare. <https://www.fao.org>
- Food and Agriculture Organization (FAO). (2018). Animal nutrition strategies for sustainable livestock production. <https://www.fao.org>
- Food and Agriculture Organization (FAO). (2018). Animal production and health guidelines. <https://www.fao.org>
- Food and Agriculture Organization (FAO). (2018). Nutrition and feeding of dairy cattle.
- Food and Agriculture Organization (FAO). (2018). Sustainable livestock production and climate change. <https://www.fao.org>
- Food and Agriculture Organization (FAO). (2018). World livestock: Transforming the livestock sector through the Sustainable Development Goals. <https://www.fao.org>
- World Organisation for Animal Health (WOAH). (2023). Terrestrial animal health code. <https://www.woah.org>
- Food and Agriculture Organization. (2019). Feed and fodder development. FAO. <https://www.fao.org>
- Fraser, D. (2008). Understanding animal welfare: The science in its cultural context. Wiley-Blackwell.
- Gallo, C., Lizondo, G., & Knowles, T. G. (2003). Effects of journey and lairage time on steers transported to slaughter in Chile. *Veterinary Record*, 152(12), 361–364. <https://doi.org/10.1136/vr.152.12.361>
- Grandin, T. (2001). Cattle vocalizations are associated with handling and equipment problems in slaughter plants. *Applied Animal Behaviour Science*, 71(3), 191–201. [https://doi.org/10.1016/S0168-1591\(00\)00179-2](https://doi.org/10.1016/S0168-1591(00)00179-2)
- Grandin, T. (2010). Auditing animal welfare at slaughter plants. *Meat Science*, 86(1), 56–65. <https://doi.org/10.1016/j.meatsci.2010.04.022>

- Grandin, T. (2014). *Livestock handling and transport* (4th ed.). CABI.
- Grandin, T. (2015). *Improving animal welfare: A practical approach* (2nd ed.). CABI.
<https://doi.org/10.1079/9781780644675.0000>
- Grandin, T. (2021). The visual, auditory, and physical environment of handling facilities for livestock, and its effect on animal welfare. *Frontiers in Animal Science*, 2, Article 744207. <https://doi.org/10.3389/fanim.2021.744207>
- Gregory, N. G. (2007). *Animal welfare and meat production* (2nd ed.). CABI.
- Hemsworth, P. H., & Coleman, G. J. (2011). *Human–livestock interactions: The stockperson and the productivity and welfare of farmed animals* (2nd ed.). CAB International.
- Hemsworth, P. H., Rice, M., Nash, J., Giri, K., Butler, K. L., Tilbrook, A. J., & Morrison, R. S. (2011). Effects of human-animal interactions at abattoirs on cattle stress and meat quality. *Journal of Animal Science*, 89(10), 3282–3290.
<https://doi.org/10.2527/jas.2010-3441>
- Henson, S., & Humphrey, J. (2010). Understanding the complexities of private standards in global agri-food chains. *World Development*, 38(4), 558–569.
<https://doi.org/10.1016/j.worlddev.2009.04.014>
- Herrero, M., Henderson, B., Havlík, P., Thornton, P. K., Conant, R. T., Smith, P., Wiersenius, S., Hristov, A. N., Gerber, P., & Gill, M. (2016). Greenhouse gas mitigation potentials in the livestock sector. *Nature Climate Change*, 6(5), 452–461.
<https://doi.org/10.1038/nclimate2925>
- Hristov, A. N., Bannink, A., Crompton, L. A., et al. (2019). Nitrogen in ruminant nutrition: A review of measurement techniques. *Journal of Dairy Science*, 102(7), 5811–5852.
<https://doi.org/10.3168/jds.2018-15884>
- Intergovernmental Panel on Climate Change. (2022). *Climate change 2022: Impacts, adaptation, and vulnerability*. <https://www.ipcc.ch>
- Jensen, M. B., & Larsen, L. E. (2014). Effects of level of social contact on dairy calf behavior and health. *Journal of Dairy Science*, 97(8), 5035–5044.
<https://doi.org/10.3168/jds.2013-7311>
- Jeyanathan, J., Martin, C., & Morgavi, D. P. (2014). The use of direct-fed microbials for mitigation of ruminant methane emissions. *Animal*, 8(2), 250–261.
<https://doi.org/10.1017/S1751731113002085>
- Jiang, B., Zhang, N., Zhang, T., & Yue, C. (2023). Factors influencing Chinese public attitudes toward farm animal welfare. *Frontiers in Psychology*, 14, Article 1049530.
<https://doi.org/10.3389/fpsyg.2023.1049530>
- Khan, M. A., Weary, D. M., & von Keyserlingk, M. A. G. (2011). Effects of milk ration on solid feed intake, weaning, and performance in dairy heifers. *Journal of Dairy Science*, 94(3), 1071–1081. <https://doi.org/10.3168/jds.2010-3733>

- Knierim, U., Winckler, C., & Veissier, I. (2009). On-farm welfare assessment in cattle. *Animal Welfare*, 18(4), 451–458.
- Knowles, T. G. (1999). A review of the road transport of cattle. *Veterinary Record*, 144(8), 197–201. <https://doi.org/10.1136/vr.144.8.197>
- Knowles, T. G., Warriss, P. D., Brown, S. N., & Edwards, J. E. (1999). Effects on cattle of transportation by road for up to 31 hours. *Veterinary Record*, 145(20), 575–582. <https://doi.org/10.1136/vr.145.20.575>
- Krause, K. M., & Oetzel, G. R. (2006). Understanding and preventing subacute ruminal acidosis in dairy herds. *Journal of Animal Science*, 84(Suppl.), E17–E26. https://doi.org/10.2527/2006.8413_supplE17x
- Kung, L., Jr., Shaver, R. D., Grant, R. J., & Schmidt, R. J. (2018). Silage review. *Journal of Dairy Science*, 101(5), 4020–4033. <https://doi.org/10.3168/jds.2017-13909>
- Lund, V., & Algers, B. (2003). Research on animal health and welfare in organic farming. *Livestock Production Science*, 80(1–2), 55–68. [https://doi.org/10.1016/S0301-6226\(02\)00321-4](https://doi.org/10.1016/S0301-6226(02)00321-4)
- Makkar, H. P. S. (2012). Biofuel co-products as livestock feed. FAO.
- Makkar, H. P. S. (2013). Utilization of agro-industrial by-products in animal feeding. *Animal Feed Science and Technology*, 185(1–2), 1–14. <https://doi.org/10.1016/j.anifeedsci.2013.06.006>
- McDonald, P., Edwards, R. A., Greenhalgh, J. F. D., Morgan, C. A., Sinclair, L. A., & Wilkinson, R. G. (2011). *Animal nutrition* (7th ed.). Pearson Education Limited.
- McDonald, P., Henderson, A. R., & Heron, S. J. E. (2011). *The biochemistry of silage* (2nd ed.). Chalcombe Publications.
- Mellor, D. J. (2016). Updating animal welfare thinking. *Animals*, 6(3), 21. <https://doi.org/10.3390/ani6030021>
- Mench, J. A. (2008). Farm animal welfare in the U.S.A. *Applied Animal Behaviour Science*, 113(4), 298–312. <https://doi.org/10.1016/j.applanim.2008.01.012>
- Mertens, D. R. (1997). Fiber requirements of dairy cows. *Journal of Dairy Science*, 80(7), 1463–1481. [https://doi.org/10.3168/jds.S0022-0302\(97\)76075-2](https://doi.org/10.3168/jds.S0022-0302(97)76075-2)
- Michalak, M., Szumacher-Strabel, M., Cieślak, A., et al. (2021). Alternative feed additives. *Animals*, 11(6), 1542. <https://doi.org/10.3390/ani11061542>
- Nagaraja, T. G., & Lechtenberg, K. F. (2007). Acidosis in feedlot cattle. *Veterinary Clinics of North America*, 23(2), 333–350. <https://doi.org/10.1016/j.cvfa.2007.04.002>
- Nagaraja, T. G., & Titgemeyer, E. C. (2007). Ruminal acidosis in beef cattle. *Journal of Dairy Science*, 90(Suppl.), E17–E38. <https://doi.org/10.3168/jds.2006-478>

- National Academies of Sciences, Engineering, and Medicine. (2021). Nutrient requirements of dairy cattle (8th rev. ed.). National Academies Press.
<https://doi.org/10.17226/25806>
- National Research Council. (2001). *Nutrient requirements of dairy cattle* (7th rev. ed.). National Academy Press.
- Nicolaisen, S., Langkabel, N., Thöne-Reineke, C., & Wiegard, M. (2023). Animal welfare during transport and slaughter of cattle: A systematic review of studies in the European legal framework. *Animals*, 13(12), Article 1974.
<https://doi.org/10.3390/ani13121974>
- Nordlund, K. V., & Cook, N. B. (2008). A flowchart for evaluating dairy cow freestalls. *Veterinary Clinics of North America: Food Animal Practice*, 24(1), 81–96.
- Organisation for Economic Co-operation and Development. (2021). *Making better policies for food systems*. <https://www.oecd.org>
- Overton, T. R., & Yasui, T. (2014). Practical applications of trace minerals for dairy cattle. *Journal of Animal Science*, 92(2), 416–426. <https://doi.org/10.2527/jas.2013-7145>
- Owens, F. N., & Zinn, R. (1988). Protein metabolism of ruminant animals. In D. C. Church (Ed.), *The ruminant animal: Digestive physiology and nutrition* (pp. 227–249). Prentice Hall.
- Owens, F. N., Secrist, D. S., Hill, W. J., & Gill, D. R. (1998). Acidosis in cattle: A review. *Journal of Animal Science*, 76(1), 275–286. <https://doi.org/10.2527/1998.761275x>
- Panivivat, R., Kegley, E. B., Pennington, J. A., Kellogg, D. W., & Krumpelman, S. L. (2004). Growth performance and health of dairy calves bedded with different types of materials. *Journal of Dairy Science*, 87(11), 3736–3745.
[https://doi.org/10.3168/jds.S0022-0302\(04\)73521-0](https://doi.org/10.3168/jds.S0022-0302(04)73521-0)
- Patra, A. K. (2012). The use of plant secondary metabolites to inhibit methanogenesis in the rumen: A review. *Livestock Science*, 147(1–3), 1–14.
<https://doi.org/10.1016/j.livsci.2012.05.013>
- Phillips, C. J. C. (2002). *Cattle behaviour and welfare* (2nd ed.). Blackwell Science.
- Plaizier, J. C., Krause, D. O., Gozho, G. N., & McBride, B. W. (2008). Subacute ruminal acidosis in dairy cows: The physiological causes, incidence and consequences. *Veterinary Journal*, 176(1), 21–31. <https://doi.org/10.1016/j.tvjl.2007.12.016>
- Rabiee, A. R., Lean, I. J., Stevenson, M. A., & Socha, M. T. (2010). Effects of feeding organic trace minerals on milk production and reproductive performance in lactating dairy cows: A meta-analysis. *Journal of Dairy Science*, 93(9), 4239–4251.
<https://doi.org/10.3168/jds.2010-3058>
- Rinehart, L. (2006). *Organic livestock production*. National Center for Appropriate Technology (NCAT).

- Rollin, B. E. (2011). Animal welfare in the United States. In M. C. Appleby, J. A. Mench, I. A. S. Olsson, & B. O. Hughes (Eds.), *Animal welfare* (2nd ed., pp. 457–470). CABI. <https://doi.org/10.1079/9781845936594.0457>
- Rushen, J., de Passillé, A. M., von Keyserlingk, M. A. G., & Weary, D. M. (2008). *The welfare of cattle*. Springer.
- Harrison, R. (1964). *Animal Machines*.
- Schwartzkopf-Genswein, K. S., Faucitano, L., Dadgar, S., Shand, P., González, L. A., & Crowe, T. G. (2012). Road transport of cattle, swine and poultry in North America and its impact on animal welfare, carcass and meat quality: A review. *Meat Science*, 92(3), 227–243. <https://doi.org/10.1016/j.meatsci.2012.04.010>
- Sumner, D. A., von Keyserlingk, M. A. G., & Weary, D. M. (2017). How will we meet demands for animal products while improving animal welfare? *Applied Animal Behaviour Science*, 189, 1–5. <https://doi.org/10.1016/j.applanim.2017.01.009>
- Sundrum, A. (2001). Organic livestock farming: A critical review. *Livestock Production Science*, 67(3), 207–215. [https://doi.org/10.1016/S0301-6226\(00\)00208-3](https://doi.org/10.1016/S0301-6226(00)00208-3)
- Sweeney, B. C., Rushen, J., Weary, D. M., & de Passillé, A. M. (2010). Duration of weaning, starter intake, and weight gain of dairy calves fed large amounts of milk. *Journal of Dairy Science*, 93(1), 148–152. <https://doi.org/10.3168/jds.2009-2427>
- Tarrant, P. V., Kenny, F. J., & Harrington, D. (1992). Long distance transportation of steers to slaughter: Effect of stocking density on physiology, behaviour and carcass quality. *Livestock Production Science*, 30(3), 223–238. [https://doi.org/10.1016/S0301-6226\(06\)80012-6](https://doi.org/10.1016/S0301-6226(06)80012-6)
- Tedeschi, L. O., Fox, D. G., Tylutki, T. P., & Russell, J. B. (2015). Integrating microbial protein synthesis with ruminal fermentation and nitrogen utilization efficiency in cattle. *Journal of Animal Science*, 93(9), 4042–4056. <https://doi.org/10.2527/jas.2015-9007>
- Thornton, P. K. (2010). Livestock production: Recent trends, future prospects. *Philosophical Transactions of the Royal Society B*, 365(1554), 2853–2867. <https://doi.org/10.1098/rstb.2010.0134>
- Tucker, C. B., Weary, D. M., & Fraser, D. (2009). Effects of three types of bedding on dairy cattle preference and behavior. *Journal of Dairy Science*, 92(5), 1937–1944. <https://doi.org/10.3168/jds.2008-1586>
- Tucker, C. B., Weary, D. M., & Fraser, D. (2009). Free-stall dimensions: Effects on preference and stall usage. *Journal of Dairy Science*, 92(9), 4101–4107. <https://doi.org/10.3168/jds.2009-2325>
- United States Department of Agriculture, National Agricultural Library. (2022). *Animal transportation*.

- United States Department of Agriculture, National Agricultural Library. (2022). *Twenty-eight hour law*.
- United States Department of Agriculture. (2022). *Animal welfare information center*.
<https://www.nal.usda.gov/animal-welfare>
- USDA FSIS. (2021). *Humane handling and slaughter requirements*.
<https://www.fsis.usda.gov>
- USDA FSIS. (2021). *Humane Methods of Slaughter Act and regulations*.
<https://www.fsis.usda.gov>
- USDA. (2021). *Humane handling and slaughter requirements*. <https://www.usda.gov>
- USDA. (2021–2022). *Animal welfare, NOP, and FSIS regulations*.
- USDA. (2022). *Animal Welfare Act and Animal Welfare Regulations*.
<https://www.aphis.usda.gov>
- USDA. (2022). *National Organic Program regulations*. <https://www.ams.usda.gov>
- USDA. (2022). *National Organic Program; Final rule (7 CFR Part 205)*.
<https://www.ecfr.gov>
- Vaarst, M., Roderick, S., Lund, V., & Lockeretz, W. (2006). *Animal health and welfare in organic agriculture*. CABI Publishing.
- Van Soest, P. J. (1994). *Nutritional ecology of the ruminant* (2nd ed.). Cornell University Press.
- Vogt, H. (2020). The EU's global role in promoting animal welfare standards. *Global Policy*, 11(3), 364–373. <https://doi.org/10.1111/1758-5899.12779>
- von Keyserlingk, M. A. G., et al. (2012). Invited review: Improving dairy cattle welfare. *Journal of Dairy Science*, 95(9), 5079–5093.
- von Keyserlingk, M. A. G., Rushen, J., de Passillé, A. M., & Weary, D. M. (2009). Invited review: The welfare of dairy cattle. *Journal of Dairy Science*, 92(9), 4101–4111.
<https://doi.org/10.3168/jds.2009-2326>
- Weary, D. M., Jasper, J., & Hötzel, M. J. (2008). Understanding weaning distress. *Applied Animal Behaviour Science*, 110(1–2), 24–41.
<https://doi.org/10.1016/j.applanim.2007.03.025>
- Welfare Quality Network. (2023). *Welfare Quality assessment protocol for cattle* (Version 3.0).
- West, J. W. (2003). Effects of heat stress on production in dairy cattle. *Journal of Dairy Science*, 86(6), 2131–2144. [https://doi.org/10.3168/jds.S0022-0302\(03\)73803-X](https://doi.org/10.3168/jds.S0022-0302(03)73803-X)

- Westreicher-Kristen, E., Steingass, H., & Rodehutschord, M. (2015). Nutritive value of brewers' grains for ruminants. *Archives of Animal Nutrition*, 69(6), 469–487. <https://doi.org/10.1080/1745039X.2015.1093875>
- Wilkinson, J. M. (2011). Re-defining efficiency of feed use by livestock. *Animal*, 5(7), 1014–1022. <https://doi.org/10.1017/S175173111100005X>
- Wilkinson, J. M., & Davies, D. R. (2013). The aerobic stability of silage: Key findings and recent developments. *Grass and Forage Science*, 68(1), 1–19. <https://doi.org/10.1111/j.1365-2494.2012.00891.x>
- World Organisation for Animal Health (WOAH). (2021). *Animal welfare standards*.
- World Organisation for Animal Health (WOAH). (2021). *Terrestrial Animal Health Code: Animal welfare standards*.
- World Organisation for Animal Health (WOAH). (2023). *Terrestrial animal health code* (32nd ed.). <https://www.woah.org/en/what-we-do/standards/codes-and-manuals/terrestrial-code-online/>
- World Organisation for Animal Health (WOAH). (2024). *Terrestrial Animal Health Code*. <https://www.woah.org/en/what-we-do/standards/codes-and-manuals/>
- World Organisation for Animal Health (WOAH). (2024). *Terrestrial Animal Health Code: Chapter 7.5. Slaughter of animals*.
- World Trade Organization. (2018). *Trade and public policy: Animal welfare considerations*. <https://www.wto.org>
- World Trade Organization. (2018). *World Trade Report 2018: The future of world trade – How digital technologies are transforming global commerce*. WTO
- Zulkifli, I. (2013). Review of human-animal interactions and their impact on animal productivity and welfare. *Journal of Animal Science and Biotechnology*, 4, Article 25