**REFERENCES**

Abu-Tarboush, H. M., Al-Saiady, M. Y., & Keir El-Din, A. H. (1996). Evaluation of diet containing lactobacilli on performance, fecal coliform, and lactobacilli of young dairy calves. *Animal Feed Science and Technology, 57*(1), 39-49. doi:<https://doi.org/10.1016/0377-8401(95)00850-0>

Adeola, O., & King, D. E. (2006). Developmental changes in morphometry of the small intestine and jejunal sucrase activity during the first nine weeks of postnatal growth in pigs. *Journal of Animal Science, 84*(1), 112-118. doi:10.2527/2006.841112x

Agyekum, A. K., Slominski, B. A., & Nyachoti, C. M. (2012). Organ weight, intestinal morphology, and fasting whole-body oxygen consumption in growing pigs fed diets containing distillers dried grains with solubles alone or in combination with a multienzyme supplement. *Journal of Animal Science, 90*(9), 3032-3040. doi:10.2527/jas.2011-4380

Amory, H., Desmecht, D., Linden, A., McEntee, K., Rollin, F., Genicot, B., . . . Lekeux, P. (1993). Growth-induced haemodynamic changes in healthy friesian calves. *The Veterinary Record, 132*(17), 426-434.

Amory, H., McEntee, K., Linden, A. S., Desmecht, D. J., Beduin, J. M., D'Orio, V., & Lekeux, P. M. (1995). Comparative assessment of right ventricular performance from the pressure-volume relationship in double-muscled and conventional calves. *Canadian Journal of Veterinary Research, 59*(2), 135-141.

Andersen, M. E., Clewell, H. J., 3rd, Gargas, M. L., Smith, F. A., & Reitz, R. H. (1987). Physiologically based pharmacokinetics and the risk assessment process for methylene chloride. *Toxicol Appl Pharmacol, 87*(2), 185-205. doi:10.1016/0041-008x(87)90281-x

Andrew, S. M., Waldo, D. R., & Erdman, R. A. (1994). Direct analysis of body composition of dairy cows at three physiological stages. *Journal of Dairy Science, 77*(10), 3022-3033. doi:10.3168/jds.S0022-0302(94)77244-1

Andrighetto, I., Gottardo, F., Andreoli, D., & Cozzi, G. (1999). Effect of type of housing on veal calf growth performance, behaviour and meat quality. *Livestock Production Science, 57*(2), 137-145. doi:10.1016/S0301-6226(98)00170-5

Anugwa, F. O. I., Varel, V. H., Dickson, J. S., Pond, W. G., & Krook, L. P. (1989). Effects of dietary fiber and protein concentration on growth, feed efficiency, visceral organ weights and large intestine microbial populations of swine. *The Journal of Nutrition, 119*(6), 879-886. doi:10.1093/jn/119.6.879

Arrayet, J. L., Oberbauer, A. M., Famula, T. R., Garnett, I., Oltjen, J. W., Imhoof, J., . . . Graham, T. W. (2002). Growth of holstein calves from birth to 90 days: The influence of dietary zinc and blad status. *Journal of Animal Science, 80*(3), 545-552. doi:10.2527/2002.803545x

Bailey, C., & Mears, G. (1990). Birth weight in calves and its relation to growth rates from birth to weaning and weaning to slaughter. *Canadian Journal of Animal Science, 70*(1), 167-173.

Ballarin, C., Povinelli, M., Granato, A., Panin, M., Corain, L., Peruffo, A., & Cozzi, B. (2016). The brain of the domestic bos taurus: Weight, encephalization and cerebellar quotients, and comparison with other domestic and wild cetartiodactyla. *PloS one, 11*(4), e0154580-e0154580. doi:10.1371/journal.pone.0154580

Barros Adwell, C. M. Q., Brito, L. F. C., Oba, E., Wilde, R. E., Rizzoto, G., Thundathil, J. C., & Kastelic, J. P. (2018). Arterial blood flow is the main source of testicular heat in bulls and higher ambient temperatures significantly increase testicular blood flow. *Theriogenology, 116*, 12-16. doi:10.1016/j.theriogenology.2018.04.022

Biolatti, B., Bollo, E., Cannizzo, F. T., Zancanaro, G., Tarantola, M., Dacasto, M., . . . Barbarino, G. (2005). Effects of low-dose dexamethasone on thymus morphology and immunological parameters in veal calves. *Journal of Veterinary Medicine Series A, 52*(4), 202-208. doi:10.1111/j.1439-0442.2005.00714.x

Bisgard, G. E., Ruiz, A. V., Grover, R. F., & Will, J. A. (1974). Ventilatory acclimatization to 3400 meters altitude in the hereford calf. *Respiration Physiology, 21*(3), 271-296. doi:10.1016/0034-5687(74)90059-0

Boleman, S. L., Boleman, S. J., Bidner, T. D., Southern, L. L., Ward, T. L., Pontif, J. E., & Pike, M. M. (1995). Effect of chromium picolinate on growth, body composition, and tissue accretion in pigs. *Journal of Animal Science, 73*(7), 2033-2042. doi:10.2527/1995.7372033x

Bourg, B. M., Tedeschi, L. O., Wickersham, T. A., & Tricarico, J. M. (2012). Effects of a slow-release urea product on performance, carcass characteristics, and nitrogen balance of steers fed steam-flaked corn. *Journal of Animal Science, 90*(11), 3914-3923. doi:10.2527/jas.2011-4832

Braun, U., Camenzind, D., & Ossent, P. (2003). Ultrasound-guided catheterization of the portal vein in 11 cows using the seldinger technique. *Journal of Veterinary Medicine Series A, 50*(1), 1-7. doi:10.1046/j.1439-0442.2003.00485.x

Brown, R. P., Delp, M. D., Lindstedt, S. L., Rhomberg, L. R., & Beliles, R. P. (1997). Physiological parameter values for physiologically based pharmacokinetic models. *Toxicology and Industrial Health, 13*(4), 407-484. doi:10.1177/074823379701300401

Brudevold, A. B., & Southern, L. L. (1994). Low-protein, crystalline amino acid-supplemented, sorghum-soybean meal diets for the 10- to 20-kilogram pig. *Journal of Animal Science, 72*(3), 638-647. doi:10.2527/1994.723638x

Buntyn, J. O., Steffen, D., Sanchez, N. C. B., Sieren, S. E., Jones, S. J., Erickson, G. E., . . . Schmidt, T. B. (2017). Serum blood metabolite response and evaluation of select organ weight, histology, and cardiac morphology of beef heifers exposed to a dual corticotropin-releasing hormone and vasopressin challenge following supplementation of zilpaterol hydrochloride. *Journal of Animal Science, 95*(12), 5327-5338. doi:10.2527/jas2017.1913

Burciaga-Robles, L. O., Krehbiel, C. R., Step, D. L., Holland, B. P., Richards, C. J., Montelongo, M. A., . . . Fulton, R. W. (2010). Effects of exposure to calves persistently infected with bovine viral diarrhea virus type 1b and mannheimia haemolytica challenge on animal performance, nitrogen balance, and visceral organ mass in beef steers. *Journal of Animal Science, 88*(6), 2179-2188. doi:10.2527/jas.2009-2006

Busch, M. A., Tucker, A., & Robertshaw, D. (1985). Interaction between cold and altitude exposure on pulmonary circulation of cattle. *Journal of Applied Physiology, 58*(3), 948-953. doi:10.1152/jappl.1985.58.3.948

Buur, J., Baynes, R., Smith, G., & Riviere, J. (2006). Use of probabilistic modeling within a physiologically based pharmacokinetic model to predict sulfamethazine residue withdrawal times in edible tissues in swine. *Antimicrobial Agents and Chemotherapy, 50*(7), 2344-2351. doi:10.1128/AAC.01355-05

Buur, J., Baynes, R. E., Craigmill, A. L., & Riviere, J. E. (2005). Development of a physiologic-based pharmacokinetic model for estimating sulfamethazine concentrations in swine and application to prediction of violative residues in edible tissues. *American Journal of Veterinary Research, 66*(10), 1686-1693. doi:10.2460/ajvr.2005.66.1686

Carr, S. B., & Jacobson, D. R. (1968). Method for measurement of gastrointestinal absorption in normal animals, combining portal-carotid differences and telemetered portal flow by doppler shift. *Journal of Dairy Science, 51*(5), 721-729. doi:10.3168/jds.S0022-0302(68)87062-6

Castells, L., Bach, A., Araujo, G., Montoro, C., & Terre, M. (2012). Effect of different forage sources on performance and feeding behavior of holstein calves. *J Dairy Sci, 95*(1), 286-293. doi:10.3168/jds.2011-4405

Cera, K. R., Mahan, D. C., Cross, R. F., Reinhart, G. A., & Whitmoyer, R. E. (1988). Effect of age, weaning and postweaning diet on small intestinal growth and jejunal morphology in young swine. *Journal of Animal Science, 66*(2), 574. doi:10.2527/jas1988.662574x

Chen, H. Y., Lewis, A. J., Miller, P. S., & Yen, J. T. (1999). The effect of excess protein on growth performance and protein metabolism of finishing barrows and gilts. *Journal of Animal Science, 77*(12), 3238. doi:10.2527/1999.77123238x

Chen, H. Y., Miller, P. S., Lewis, A. J., Wolverton, C. K., & Stroup, W. W. (1995). Changes in plasma urea concentration can be used to determine protein requirements of two populations of pigs with different protein accretion rates. *Journal of Animal Science, 73*(9), 2631. doi:10.2527/1995.7392631x

Chiba, L. I. (1994). Effects of dietary amino acid content between 20 and 50 kg and 50 and 100 kg live weight on the subsequent and overall performance of pigs. *Livestock Production Science, 39*(2), 213-221. doi:10.1016/0301-6226(94)90186-4

Cliplef, R. L., & McKay, R. M. (1993). Visceral organ weights of swine selected for reduced backfat thickness and increased growth rate. *Canadian Journal of Animal Science, 73*(1), 201-206. doi:10.4141/cjas93-020

Conrad, H. R., Smith, H. R., Vandersall, J. H., Pounden, W. D., & Hibbs, J. W. (1958). Estimating gastrosplenic blood flow and volatile fatty acid absorption from the forestomachs of calves. *Journal of Dairy Science, 41*(8), 1094-1099. doi:10.3168/jds.S0022-0302(58)91057-9

Cozzi, G., Gottardo, F., Mattiello, S., Canali, E., Scanziani, E., Verga, M., & Andrighetto, I. (2002). The provision of solid feeds to veal calves: I. Growth performance, forestomach development, and carcass and meat quality. *Journal of Animal Science, 80*(2), 357-366.

Critser, D. J., Miller, P. S., & Lewis, A. J. (1995). The effects of dietary protein concentration on compensatory growth in barrows and gilts. *Journal of Animal Science, 73*(11), 3376-3383. doi:10.2527/1995.73113376x

Davies, B., & Morris, T. (1993). Physiological parameters in laboratory animals and humans. *Pharm Res, 10*(7), 1093-1095. doi:10.1023/a:1018943613122

Davis, S. R., Collier, R. J., McNamara, J. P., Head, H. H., & Sussman, W. (1988). Effects of thyroxine and growth hormone treatment of dairy cows on milk yield, cardiac output and mammary blood flow. *Journal of Animal Science, 66*(1), 70-79. doi:10.2527/jas1988.66170x

De Paula, N. F., Tedeschi, L. O., Paulino, M. F., Fernandes, H. J., & Fonseca, M. A. (2013). Predicting carcass and body fat composition using biometric measurements of grazing beef cattle. *Journal of Animal Science, 91*(7), 3341-3351. doi:10.2527/jas.2012-5233

Deetz, L. E., Tucker, R. E., Mitchell, G. E., & DeGregorio, R. M. (1982). Renal function and magnesium clearance in young and old cows given potassium chloride and sodium citrate. *Journal of Animal Science, 55*(3), 680-689. doi:10.2527/jas1982.553680x

DeGoey, L. W., Wahlstrom, R. C., & Emerick, R. J. (1971). Studies of high level copper supplementation to rations for growing swine. *Journal of Animal Science, 33*(1), 52-57. doi:10.2527/jas1971.33152x

Delaquis, A. M., & Block, E. (1995). Acid-base status, renal function, water, and macromineral metabolism of dry cows fed diets differing in cation-anion difference. *Journal of Dairy Science, 78*(3), 604-619. doi:10.3168/jds.S0022-0302(95)76671-1

Delp, M. D., Manning, R. O., Bruckner, J. V., & Armstrong, R. B. (1991). Distribution of cardiac output during diurnal changes of activity in rats. *Am J Physiol, 261*(5 Pt 2), H1487-1493. doi:10.1152/ajpheart.1991.261.5.H1487

DiCostanzo, A., Meiske, J. C., & Plegge, S. D. (1991). Characterization of energetically efficient and inefficient beef cows. *Journal of Animal Science, 69*(4), 1337-1348.

Doornenbal, H., Tong, A. K. W., & Sather, A. P. (1986). Relationships among serum characteristics and performance and carcass traits in growing pigs. *Journal of Animal Science, 62*(6), 1675-1681. doi:10.2527/jas1986.6261675x

Doyle, J. T., Patterson, J. L., Warren, J. V., & Detweiler, D. K. (1960). Observations on the circulation of domestic cattle. *Circulation Research, 8*(1), 4-15. doi:10.1161/01.RES.8.1.4

Duncker, D. J., Haitsma, D. B., Geest, I. E. J., Stubenitsky, R., van Meegen, J. R., Manin't Veld, A. J., & Verdouw, P. D. (1997). Systemic, pulmonary and coronary haemodynamic actions of the novel dopamine receptor agonist in awake pigs at rest and during treadmill exercise z1046. *British Journal of Pharmacology, 120*(6), 1101-1113. doi:10.1038/sj.bjp.0701022

Durand, D., Bauchart, D., Lefaivre, J., & Donnat, J. P. (1988). Method for continuous measurement of blood metabolite hepatic balance in conscious preruminant calves. *Journal of Dairy Science, 71*(6), 1632-1637. doi:10.3168/jds.S0022-0302(88)79727-1

Durand, D., Bauchart, D., & Levaivre, J. (1984). In vivo hepatic balance of lipids and glucose in the calf; effect of sorbitol intake. *Canadian Journal of Animal Science, 64*(5), 238-239. doi:10.4141/cjas84-241

Early, R. J., McBride, B. W., & Ball, R. O. (1990). Growth and metabolism in somatotropin-treated steers: Ii. Carcass and noncarcass tissue components and chemical composition. *Journal of Animal Science, 68*(12), 4144-4152. doi:10.2527/1990.68124144x

Eaton, H. D., Rousseau, J. E., Hall, R. C., Frier, H. I., & Lucas, J. J. (1972). Reevaluation of the minimum vitamin a requirement of holstein male calves based upon elevated cerebrospinal fluid pressure1. *Journal of Dairy Science, 55*(2), 232-237. doi:<https://doi.org/10.3168/jds.S0022-0302(72)85465-1>

Eisemann, J. H., Huntington, G. B., & Ferrell, C. L. (1987). Blood flow to hindquarters of steers measured by transit time ultrasound and indicator dilution. *Journal of Dairy Science, 70*(7), 1385-1390. doi:10.3168/jds.S0022-0302(87)80160-1

Eisemann, J. H., Huntington, G. B., & Ferrell, C. L. (1988). Effects of dietary clenbuterol on metabolism of the hindquarters in steers. *Journal of Animal Science, 66*(2), 342. doi:10.2527/jas1988.662342x

Ellis, J. L., Reynolds, C. K., Crompton, L. A., Hanigan, M. D., Bannink, A., France, J., & Dijkstra, J. (2016). Prediction of portal and hepatic blood flow from intake level data in cattle. *Journal of Dairy Science, 99*(11), 9238-9253. doi:10.3168/jds.2015-10383

EMA. (2018). Guideline on the reporting of physiologically based pharmacokinetic (pbpk) modelling and simulation. European medicine agency, london, uk. Available at: <Https://www.Ema.Europa.Eu/en/documents/scientific-guideline/guideline-reporting-physiologically-based-pharmacokinetic-pbpk-modelling-simulation_en.Pdf>. (accessed date: 04/11/2019).

Fabian, E., Gomes, C., Birk, B., Williford, T., Hernandez, T. R., Haase, C., . . . Landsiedel, R. (2019). In vitro-to-in vivo extrapolation (ivive) by pbtk modeling for animal-free risk assessment approaches of potential endocrine-disrupting compounds. *Arch Toxicol, 93*(2), 401-416. doi:10.1007/s00204-018-2372-z

Fasules, J. W., Tryka, F., Chipman, C. W., & Van Devanter, S. H. (1994). Pulmonary hypertension and arterial changes in calves with a systemic-to-left pulmonary artery connection. *Journal of Applied Physiology, 77*(2), 867-875. doi:10.1152/jappl.1994.77.2.867

Faulkner, D. B., McKeith, F. K., Berger, L. L., Kesler, D. J., & Parrett, D. F. (1989). Effect of testosterone propionate on performance and carcass characteristics of heifers and cows. *Journal of Animal Science, 67*(8), 1907. doi:10.2527/jas1989.6781907x

FDA. (2018). Physiologically based pharmacokinetic analyses - format and content, guidance for industry. Us food and drug administration, silver spring, md. Available at: <Https://www.Fda.Gov/downloads/drugs/guidancecomplianceregulatoryinformation/guidances/ucm531207.Pdf>. (accessed date: 04/11/2019).

Fernandez, X., Monin, G., Culioli, J., Legrand, I., & Quilichini, Y. (1996). Effect of duration of feed withdrawal and transportation time on muscle characteristics and quality in friesian-holstein calves. *Journal of Animal Science, 74*(7), 1576. doi:10.2527/1996.7471576x

Fiems, L. O., Boucque, C. V., & Cottyn, B. G. (1993). Effect of duration of a β‐agonist treatment on growth, feed intake and carcass characteristics in finishing bulls. *Archiv für Tierernaehrung, 45*(2), 101-109. doi:10.1080/17450399309386092

Fitzsimons, C., Kenny, D. A., & McGee, M. (2014). Visceral organ weights, digestion and carcass characteristics of beef bulls differing in residual feed intake offered a high concentrate diet. *Animal, 8*(6), 949-959. doi:10.1017/S1751731114000652

Fonseca, M. A., Tedeschi, L. O., Filho, S. C. V., De Paula, N. F., Villadiego, F. A. C., Junior, J. M. S., . . . Chizzotti, M. L. (2017). Assessment of body fat composition in crossbred angus × nellore using biometric measurements. *Journal of Animal Science, 95*(12), 5584-5596. doi:10.2527/jas2017.1840

Ford, S. P., & Chenault, J. R. (1981). Blood flow to the corpus luteum-bearing ovary and ipsilateral uterine horn of cows during the oestrous cycle and early pregnancy. *Reproduction, 62*(2), 555-562. doi:10.1530/jrf.0.0620555

Ford, S. P., Chenault, J. R., & Echternkamp, S. E. (1979). Uterine blood flow of cows during the oestrous cycle and early pregnancy: Effect of the conceptus on the uterine blood supply. *Reproduction, 56*(1), 53-62. doi:10.1530/jrf.0.0560053

Freetly, H. C., Vonnahme, K. A., McNeel, A. K., Camacho, L. E., Amundson, O. L., Forbes, E. D., . . . Cushman, R. A. (2014). The consequence of level of nutrition on heifer ovarian and mammary development. *Journal of Animal Science, 92*(12), 5437-5443. doi:10.2527/jas.2014-8086

Fries, G. F., & Conner, G. H. (1961). Studies on bovine portal blood. Ii. Blood flow determinations with observations on hemodilution in the portal vein. *American Journal of Veterinary Research, 22*, 487-491.

Garrett, W. N., Heitman, H., & Booth, A. N. (1968). Aflatoxin toxicity in beef cattle. *Experimental Biology and Medicine, 127*(1), 188-190. doi:10.3181/00379727-127-32652

Gill, M., Beever, D. E., Buttery, P. J., England, P., Gibb, M. J., & Baker, R. D. (1987). The effect of oestradiol-17 β implantation on the response in voluntary intake, live-weight gain and body composition, to fishmeal supplementation of silage offered to growing calves. *The Journal of Agricultural Science, 108*(1), 9-16. doi:10.1017/S0021859600064091

Godin, S. J., DeVito, M. J., Hughes, M. F., Ross, D. G., Scollon, E. J., Starr, J. M., . . . Tornero-Velez, R. (2010). Physiologically based pharmacokinetic modeling of deltamethrin: Development of a rat and human diffusion-limited model. *Toxicol Sci, 115*(2), 330-343. doi:10.1093/toxsci/kfq051

Gowanlock, D. W., Mahan, D. C., Jolliff, J. S., Moeller, S. J., & Hill, G. M. (2013). Evaluating the nrc levels of cu, fe, mn, and zn using organic minerals for grower-finisher swine. *Journal of Animal Science, 91*(12), 5680-5686. doi:10.2527/jas.2013-6608

Grech, A., Brochot, C., Dorne, J. L., Quignot, N., Bois, F. Y., & Beaudouin, R. (2017). Toxicokinetic models and related tools in environmental risk assessment of chemicals. *Sci Total Environ, 578*, 1-15. doi:10.1016/j.scitotenv.2016.10.146

Groce, A. W., Miller, E. R., Ullrey, D. E., Ku, P. K., Keahey, K. K., & Ellis, D. J. (1973). Selenium requirements in corn-soy diets for growing-finishing swine. *Journal of Animal Science, 37*(4), 948-956. doi:10.2527/jas1973.374948x

Groenewegen, P. P., McBride, B. W., Burton, J. H., & Elsasser, T. H. (1990). Effect of bovine somatotropin on the growth rate, hormone profiles and carcass composition of holstein bull calves. *Domest Anim Endocrinol, 7*(1), 43-54.

Hannon, J. P., Bossone, C. A., & Wade, C. E. (1990). Normal physiological values for conscious pigs used in biomedical research. *Laboratory Animal Science, 40*(3), 293-298.

Hansard, S. L. (1956). Residual organ blood volume of cattle, sheep and swine. *Experimental Biology and Medicine, 91*(1), 31-34. doi:10.3181/00379727-91-22160

Hansard, S. L., Butler, W. O., Comar, C. L., & Hobbs, C. S. (1953). Blood volume of farm animals. *Journal of Animal Science, 12*(2), 402-413. doi:10.2527/jas1953.122402x

Harmon, D. L., & Avery, T. B. (1987). Effects of dietary monensin and sodium propionate on net nutrient flux in steers fed a high-concentrate diet. *Journal of Animal Science, 65*(6), 1610-1616.

Harrison, R. D., Reynolds, I. P., & Little, W. (1983). A quantitative analysis of mammary glands of dairy heifers reared at different rates of live weight gain. *Journal of Dairy Research, 50*(04), 405. doi:10.1017/S0022029900032635

Heimbecker, R. O. (1969). Surgery for massive myocardial infarction. *Progress in Cardiovascular Diseases, 11*(4), 338-350. doi:10.1016/0033-0620(69)90059-0

Henri, J., Carrez, R., Méda, B., Laurentie, M., & Sanders, P. (2017). A physiologically based pharmacokinetic model for chickens exposed to feed supplemented with monensin during their lifetime. *Journal of Veterinary Pharmacology and Therapeutics, 40*(4), 370-382. doi:10.1111/jvp.12370

Honeyfield, D. C., Froseth, J. A., & Barke, R. J. (1985). Dietary sodium and chloride levels for growing-finishing pigs. *Journal of Animal Science, 60*(3), 691-698. doi:10.2527/jas1985.603691x

Hood, R. L., & Allen, C. E. (1977). Cellularity of porcine adipose tissue: Effects of growth and adiposity. *Journal of Lipid Research, 18*(3), 275-284.

Huber, T. L. (1976). Physiological effects of acidosis on feedlot cattle. *Journal of Animal Science, 43*(4), 902-909. doi:10.2527/jas1976.434902x

Huntington, G. B., Eisemann, J. H., & Whitt, J. M. (1990). Portal blood flow in beef steers: Comparison of techniques and relation to hepatic blood flow, cardiac output and oxygen uptake. *Journal of Animal Science, 68*(6), 1666. doi:10.2527/1990.6861666x

Huntington, G. B., & Prior, R. L. (1983). Digestion and absorption of nutrients by beef heifers fed a high concentrate diet. *The Journal of Nutrition, 113*(11), 2280-2288. doi:10.1093/jn/113.11.2280

Huntington, G. B., Reynolds, C. K., & Stroud, B. H. (1989). Techniques for measuring blood flow in splanchnic tissues of cattle. *Journal of Dairy Science, 72*(6), 1583-1595. doi:10.3168/jds.S0022-0302(89)79270-5

Hyun, Y., Ellis, M., Curtis, S. E., & Johnson, R. W. (2005). Environmental temperature, space allowance, and regrouping: Additive effects of multiple concurrent stressors in growing pigs. *Journal of Swine Health and Production, 13*(3), 8.

ICRP. (2002). Basic anatomical and physiological data for use in radiological protection: Reference values. A report of age- and gender-related differences in the anatomical and physiological characteristics of reference individuals. Icrp publication 89. *Ann ICRP, 32*(3-4), 5-265.

Ireland, J. J., Coulson, P. B., & Murphree, R. L. (1979). Follicular development during four stages of the estrous cycle of beef cattle. *Journal of Animal Science, 49*(5), 1261-1269. doi:10.2527/jas1979.4951261x

Jenkins, T. G., & Ferrell, C. L. (1997). Changes in proportions of empty body depots and constituents for nine breeds of cattle under various feed availabilities. *Journal of Animal Science, 75*(1), 95. doi:10.2527/1997.75195x

Jin, L., Reynolds, L. P., Redmer, D. A., Caton, J. S., & Crenshaw, J. D. (1994). Effects of dietary fiber on intestinal growth, cell proliferation, and morphology in growing pigs. *Journal of Animal Science, 72*(9), 2270-2278. doi:10.2527/1994.7292270x

Johnson, J. S., Sanz Fernandez, M. V., Patience, J. F., Ross, J. W., Gabler, N. K., Lucy, M. C., . . . Baumgard, L. H. (2015). Effects of in utero heat stress on postnatal body composition in pigs: Ii. Finishing phase. *Journal of Animal Science, 93*(1), 82-92. doi:10.2527/jas.2014-8355

Kaensombath, L., & Lindberg, J. E. (2012). Effect of replacing soybean protein by taro leaf (colocasia esculenta (l.) schott) protein on growth performance of exotic (landrace × yorkshire) and native (moo lath) lao pigs. *Tropical Animal Health and Production, 45*(1), 45-51. doi:10.1007/s11250-012-0172-7

Kaensombath, L., Neil, M., & Lindberg, J. E. (2013). Effect of replacing soybean protein with protein from ensiled stylo (stylosanthes guianensis (aubl.) sw. Var. Guianensis) on growth performance, carcass traits and organ weights of exotic (landrace × yorkshire) and native (moo lath) lao pigs. *Tropical Animal Health and Production, 45*(3), 865-871. doi:10.1007/s11250-012-0299-6

Kahl, S., Wrenn, T. R., & Bitman, J. (1977). Plasma tri-iodothyronine and thyroxine in young growing calves. *J Endocrinol, 73*(2), 397-398. doi:10.1677/joe.0.0730397

Keane, M. G. (2011). *Relative tissue growth patterns and carcass composition in beef cattle*. Teagasc Retrieved from <https://t-stor.teagasc.ie/handle/11019/809>

Kerr, B. J., Yen, J. T., Nienaber, J. A., & Easter, R. A. (2003). Influences of dietary protein level, amino acid supplementation and environmental temperature on performance, body composition, organ weights and total heat production of growing pigs. *Journal of Animal Science, 81*(8), 1998-2007. doi:10.2527/2003.8181998x

Kerr, D. E., Manns, J. G., Laarveld, B., & Fehr, M. I. (1991). Profiles of serum igf-i concentrations in calves from birth to eighteen months of age and in cows throughout the lactation cycle. *Canadian Journal of Animal Science, 71*(3), 695-705.

Khan, M. A., Lee, H. J., Lee, W. S., Kim, H. S., Ki, K. S., Hur, T. Y., . . . Choi, Y. J. (2007). Structural growth, rumen development, and metabolic and immune responses of holstein male calves fed milk through step-down and conventional methods. *J Dairy Sci, 90*(7), 3376-3387. doi:10.3168/jds.2007-0104

Khan, M. A., Weary, D. M., & von Keyserlingk, M. A. G. (2011). Hay intake improves performance and rumen development of calves fed higher quantities of milk. *Journal of Dairy Science, 94*(7), 3547-3553. doi:10.3168/jds.2010-3871

Killian, G. J., & Amann, R. P. (1972). Reproductive capacity of dairy bulls. Ix. Changes in reproductive organ weights and semen characteristics of holstein bulls during the first thirty weeks after puberty. *Journal of Dairy Science, 55*(11), 1631-1635. doi:10.3168/jds.S0022-0302(72)85731-X

Koong, L.-J., Nienaber, J. A., Pekas, J. C., & Yen, J.-T. (1982). Effects of plane of nutrition on organ size and fasting heat production in pigs. *The Journal of Nutrition, 112*(8), 1638-1642. doi:10.1093/jn/112.8.1638

Koong, L. J., Nienaber, J. A., & Mersmann, H. J. (1983). Effects of plane of nutrition on organ size and fasting heat production in genetically obese and lean pigs. *The Journal of Nutrition, 113*(8), 1626-1631. doi:10.1093/jn/113.8.1626

Kristensen, N. B., Sehested, J., Jensen, S. K., & Vestergaard, M. (2007). Effect of milk allowance on concentrate intake, ruminal environment, and ruminal development in milk-fed holstein calves. *Journal of Dairy Science, 90*(9), 4346-4355. doi:10.3168/jds.2006-885

Larsen, M., Røntved, C. M., Theil, P. K., Khatun, M., Lauridsen, C., & Kristensen, N. B. (2017). Effect of experimentally increased protein supply to postpartum dairy cows on plasma protein synthesis, rumen tissue proliferation, and immune homeostasis. *Journal of Animal Science, 95*(5), 2097. doi:10.2527/jas2016.1055

Lautz, L. S., Dorne, J., Oldenkamp, R., Hendriks, A. J., & Ragas, A. M. J. (2019). Generic physiologically based kinetic modelling for farm animals: Part i. Data collection of physiological parameters in swine, cattle and sheep. *Toxicol Lett, 319*, 95-101. doi:10.1016/j.toxlet.2019.10.021

Lautz, L. S., Oldenkamp, R., Dorne, J. L., & Ragas, A. M. J. (2019). Physiologically based kinetic models for farm animals: Critical review of published models and future perspectives for their use in chemical risk assessment. *Toxicol In Vitro, 60*, 61-70. doi:10.1016/j.tiv.2019.05.002

Lawler, T. L., Taylor, J. B., Finley, J. W., & Caton, J. S. (2004). Effect of supranutritional and organically bound selenium on performance, carcass characteristics, and selenium distribution in finishing beef steers. *Journal of Animal Science, 82*(5), 1488-1493. doi:10.2527/2004.8251488x

Lawrence, P., Kenny, D. A., Earley, B., Crews, D. H., & McGee, M. (2011). Grass silage intake, rumen and blood variables, ultrasonic and body measurements, feeding behavior, and activity in pregnant beef heifers differing in phenotypic residual feed intake. *Journal of Animal Science, 89*(10), 3248-3261. doi:10.2527/jas.2010-3774

Leavens, T. L., Tell, L. A., Kissell, L. W., Smith, G. W., Smith, D. J., Wagner, S. A., . . . Riviere, J. E. (2014). Development of a physiologically based pharmacokinetic model for flunixin in cattle (<i>bos taurus</i>). *Food Additives & Contaminants: Part A, 31*(9), 1506-1521. doi:10.1080/19440049.2014.938363

Lee, J. W., & Woyengo, T. A. (2018). Growth performance, organ weights, and blood parameters of nursery pigs fed diets containing increasing levels of cold-pressed canola cake. *Journal of Animal Science*. doi:10.1093/jas/sky317

Lescoat, P., Sauvant, D., & Danfær, A. (1996). Quantitative aspects of blood and amino acid flows in cattle. *Reproduction Nutrition Development, 36*(2), 137-174. doi:10.1051/rnd:19960202

Li, M., Cheng, Y. H., Chittenden, J. T., Baynes, R. E., Tell, L. A., Davis, J. L., . . . Lin, Z. (2019). Integration of food animal residue avoidance databank (farad) empirical methods for drug withdrawal interval determination with a mechanistic population-based interactive physiologically based pharmacokinetic (ipbpk) modeling platform: Example for flunixin meglumine administration. *Arch Toxicol, 93*(7), 1865-1880. doi:10.1007/s00204-019-02464-z

Li, M., Gehring, R., Riviere, J. E., & Lin, Z. (2017). Development and application of a population physiologically based pharmacokinetic model for penicillin g in swine and cattle for food safety assessment. *Food and Chemical Toxicology, 107*, 74-87. doi:<https://doi.org/10.1016/j.fct.2017.06.023>

Li, M., Gehring, R., Riviere, J. E., & Lin, Z. (2018). Probabilistic physiologically based pharmacokinetic model for penicillin g in milk from dairy cows following intramammary or intramuscular administrations. *Toxicological Sciences, 164*(1), 85-100. doi:10.1093/toxsci/kfy067

Li, M., Mainquist-Whigham, C., Karriker, L. A., Wulf, L. W., Zeng, D., Gehring, R., . . . Lin, Z. (2019). An integrated experimental and physiologically based pharmacokinetic modeling study of penicillin g in heavy sows. *J Vet Pharmacol Ther, 42*(4), 461-475. doi:10.1111/jvp.12766

Lin, Z., Gehring, R., Mochel, J. P., Lavé, T., & Riviere, J. E. (2016). Mathematical modeling and simulation in animal health - part ii: Principles, methods, applications, and value of physiologically based pharmacokinetic modeling in veterinary medicine and food safety assessment. *Journal of Veterinary Pharmacology and Therapeutics, 39*(5), 421-438. doi:10.1111/jvp.12311

Lin, Z., Monteiro-Riviere, N. A., & Riviere, J. E. (2016). A physiologically based pharmacokinetic model for polyethylene glycol-coated gold nanoparticles of different sizes in adult mice. *Nanotoxicology, 10*(2), 162-172. doi:10.3109/17435390.2015.1027314

Lin, Z., Vahl, C. I., & Riviere, J. E. (2016). Human food safety implications of variation in food animal drug metabolism. *Sci Rep, 6*, 27907. doi:10.1038/srep27907

Lineweaver, J. A., & Hafez, E. S. E. (1969). Feed intake and performance in calves fed ad libitum and four times daily. *Journal of Dairy Science, 52*(12), 2001-2006. doi:10.3168/jds.S0022-0302(69)86886-4

Long, N. M., Prado-Cooper, M. J., Krehbiel, C. R., DeSilva, U., & Wettemann, R. P. (2010). Effects of nutrient restriction of bovine dams during early gestation on postnatal growth, carcass and organ characteristics, and gene expression in adipose tissue and muscle. *Journal of Animal Science, 88*(10), 3251-3261. doi:10.2527/jas.2009-2512

Long, N. M., Tousley, C. B., Underwood, K. R., Paisley, S. I., Means, W. J., Hess, B. W., . . . Ford, S. P. (2012). Effects of early- to mid-gestational undernutrition with or without protein supplementation on offspring growth, carcass characteristics, and adipocyte size in beef cattle. *Journal of Animal Science, 90*(1), 197-206. doi:10.2527/jas.2011-4237

Lundeen, G., Manohar, M., & Parks, C. (1983). Systemic distribution of blood flow in swine while awake and during 1.0 and 1.5 mac isoflurane anesthesia with or without 50% nitrous oxide. *Anesthesia & Analgesia, 62*(5), 499???512. doi:10.1213/00000539-198305000-00008

Macdougall, D. B., Bremner, I., & Dalgarno, A. C. (1973). Effect of dietary iron on the colour and pigment concentration of veal. *Journal of the Science of Food and Agriculture, 24*(10), 1255-1263. doi:10.1002/jsfa.2740241015

MacLachlan, D. J. (2009). Influence of physiological status on residues of lipophilic xenobiotics in livestock. *Food Additives & Contaminants: Part A, 26*(5), 692-712. doi:10.1080/02652030802669170

Mader, C. J., Montanholi, Y. R., Wang, Y. J., Miller, S. P., Mandell, I. B., McBride, B. W., & Swanson, K. C. (2009). Relationships among measures of growth performance and efficiency with carcass traits, visceral organ mass, and pancreatic digestive enzymes in feedlot cattle. *Journal of Animal Science, 87*(4), 1548-1557. doi:10.2527/jas.2008-0914

Manohar, M., & Parks, C. M. (1984). Porcine systemic and regional organ blood flow during 1.0 and 1.5 minimum alveolar concentrations of sevoflurane anesthesia without and with 50% nitrous oxide. *The Journal of Pharmacology and Experimental Therapeutics, 231*(3), 640-648.

Manohar, M., Parks, C. M., Busch, M. A., Tranquilli, W. J., Bisgard, G. E., McPherron, T. A., & Theodorakis, M. C. (1982). Regional myocardial blood flow and coronary vascular reserve in unanesthetized young calves exposed to a simulated altitude of 3500 m for 8-10 weeks. *Circulation Research, 50*(5), 714-726. doi:10.1161/01.RES.50.5.714

Manohar, M., Thurmon, J. C., Devous, M. D., Tranquilli, W. J., Shawley, R. V., & Benson, G. J. (1981). Regional coronary blood flow and coronary vascular reserve in unanesthetized calves at rest and during pharmacologic stress. *The Journal of Surgical Research, 30*(2), 97-109.

Martin, L. M., Wood, K. M., McEwen, P. L., Smith, T. K., Mandell, I. B., Yannikouris, A., & Swanson, K. C. (2010). Effects of feeding corn naturally contaminated with fusarium mycotoxins and/or a modified yeast cell wall extract on the performance, immunity and carcass characteristics of grain-fed veal calves. *Animal Feed Science and Technology, 159*(1-2), 27-34. doi:10.1016/j.anifeedsci.2010.05.006

Matthews, C. A., Swett, W. W., & McDowell, R. E. (1975). External form and internal anatomy of holsteins and jerseys. *Journal of Dairy Science, 58*(10), 1453-1475. doi:10.3168/jds.S0022-0302(75)84737-0

McCurdy, M. P., Krehbiel, C. R., Horn, G. W., Lancaster, P. A., & Wagner, J. J. (2010). Effects of winter growing program on visceral organ mass, composition, and oxygen consumption of beef steers during growing and finishing. *Journal of Animal Science, 88*(4), 1554-1563. doi:10.2527/jas.2009-2415

McEvoy, T. G., Sinclair, K. D., Broadbent, P. J., Goodhand, K. L., & Robinson, J. J. (1998). Post-natal growth and development of simmental calves derived from in vivo or in vitro embryos. *Reproduction, Fertility, and Development, 10*(6), 459-464.

McGilliard, A. D., Thorp, J. W., & Thorp, S. L. (1971). Variation in portal blood flow measured by dye-dilution in young calves. *Journal of Dairy Science, 54*(2), 247-251. doi:10.3168/jds.S0022-0302(71)85819-8

Meyer, A. M., Hess, B. W., Paisley, S. I., Du, M., & Caton, J. S. (2014). Small intestinal growth measures are correlated with feed efficiency in market weight cattle, despite minimal effects of maternal nutrition during early to midgestation. *Journal of Animal Science, 92*(9), 3855-3867. doi:10.2527/jas.2014-7646

Millecam, J., De Clerck, L., Govaert, E., Devreese, M., Gasthuys, E., Schelstraete, W., . . . Croubels, S. (2018). The ontogeny of cytochrome p450 enzyme activity and protein abundance in conventional pigs in support of preclinical pediatric drug research. *Front Pharmacol, 9*, 470. doi:10.3389/fphar.2018.00470

Miller, E. R., & Ullrey, D. E. (1987). The pig as a model for human nutrition. *Annual Review of Nutrition, 7*, 361-382. doi:10.1146/annurev.nu.07.070187.002045

Mitchell, A. D., Scholz, A. M., Wange, P. C., & Song, H. (2001). Body composition analysis of the pig by magnetic resonance imaging. *Journal of Animal Science, 79*(7), 1800-1813.

Moloney, A. P., Allen, P., Ross, D. B., Olson, G., & Convey, E. M. (1990). Growth, feed efficiency and carcass composition of finishing friesian steers fed the beta-adrenergic agonist l-644,969. *Journal of Animal Science, 68*(5), 1269-1277. doi:10.2527/1990.6851269x

Montoro, C., Miller-Cushon, E. K., DeVries, T. J., & Bach, A. (2013). Effect of physical form of forage on performance, feeding behavior, and digestibility of holstein calves. *J Dairy Sci, 96*(2), 1117-1124. doi:10.3168/jds.2012-5731

Morgan, J. H. L. (1969). Body composition and carcass characteristics of calves fed on different levels of whole milk relative to body weight. *New Zealand Journal of Agricultural Research, 12*(1), 75-86. doi:10.1080/00288233.1969.10427079

Moseley, W. B., Paulissen, J., Goodwin, M., Alaniz, G., & Claflin, W. H. (1992). Recombinant bovine somatotropin improves growth performance in finishing beef steers. *Journal of Animal Science, 70*(2), 412-425. doi:10.2527/1992.702412x

Moughan, P. J., Smith, W. C., & Stevens, E. V. J. (1990). Allometric growth of chemical body components and several organs in the pig (20–90 kg liveweight). *New Zealand Journal of Agricultural Research, 33*(1), 77-84. doi:10.1080/00288233.1990.10430663

Murphy, T. A., & Loerch, S. C. (1994). Effects of restricted feeding of growing steers on performance, carcass characteristics, and composition. *Journal of Animal Science, 72*(9), 2497-2507.

Nascimento, C. F., Branco, R. H., Bonilha, S. F. M., Cyrillo, J. N. S. G., Negrão, J. A., & Mercadante, M. E. Z. (2015). Residual feed intake and blood variables in young nellore cattle. *Journal of Animal Science, 93*(3), 1318. doi:10.2527/jas.2014-8368

Neuwirth, J. G., Norton, J. K., Rawlings, C. A., Thompson, F. N., & Ware, G. O. (1979). Physiologic responses of dairy calves to environmental heat stress. *International Journal of Biometeorology, 23*(3), 243-254. doi:10.1007/BF01553775

Nienaber, J. A., Eisemann, J. H., Yen, J. T., & Huntington, G. B. (1993). Technical note: Comparison of techniques for measurement of oxygen uptake by cattle. *Journal of Animal Science, 71*(10), 2756-2759. doi:10.2527/1993.71102756x

Nies, A. S., Shand, D. G., & Wilkinson, G. R. (1976). Altered hepatic blood flow and drug disposition. *Clin Pharmacokinet, 1*(2), 135-155. doi:10.2165/00003088-197601020-00005

O'Connor, M. K., Krom, R. F., Carton, E. G., Sanchez-Urdazpal, L., Juni, J. E., Ferguson, D. M., & Wiesner, R. F. (1992). Ratio of hepatic arterial-to-portal venous blood flowâ€”validation of radionuclide techniques in an animal model. 8.

O'Hea, E. K., & Leveille, G. A. (1969). Significance of adipose tissue and liver as sites of fatty acid synthesis in the pig and the efficiency of utilization of various substrates for lipogenesis. *The Journal of Nutrition, 99*(3), 338-344. doi:10.1093/jn/99.3.338

Olivares, R. W. I., Postma, G. C., Schapira, A., Iglesias, D. E., Valdez, L. B., Breininger, E., . . . Minatel, L. (2019). Biochemical and morphological alterations in hearts of copper-deficient bovines. *Biological Trace Element Research, 189*(2), 447-455. doi:10.1007/s12011-018-1476-x

Ortigues, I., Martin, C., Durand, D., & Vermorel, M. (1995). Circadian changes in energy expenditure in the preruminant calf: Whole animal and tissue level. *Journal of Animal Science, 73*(2), 552-564. doi:10.2527/1995.732552x

Owen, K. Q., Nelssen, J. L., Goodband, R. D., Tokach, M. D., & Friesen, K. G. (2001). Effect of dietary l-carnitine on growth performance and body composition in nursery and growing-finishing pigs. *Journal of Animal Science, 79*(6), 1509. doi:10.2527/2001.7961509x

Owsley, W. F., Orr, D. E., & Tribble, L. F. (1986). Effects of age and diet on the development of the pancreas and the synthesis and secretion of pancreatic enzymes in the young pig. *Journal of Animal Science, 63*(2), 497-504.

Phuc, B. H. N., & Hieu, L. T. (1993). "A" molasses in diets for growing pigs. *Livestock Research for Rural Development, 5*.

Pond, W. G., Jung, H. G., & Varel, V. H. (1988). Effect of dietary fiber on young adult genetically lean, obese and contemporary pigs: Body weight, carcass measurements, organ weights and digesta content. *Journal of Animal Science, 66*(3), 699. doi:10.2527/jas1988.663699x

Pond, W. G., Varel, V. H., Dickson, J. S., & Haschek, W. M. (1989). Comparative response of swine and rats to high-fiber or high-protein diets. *Journal of Animal Science, 67*(3), 716. doi:10.2527/jas1989.673716x

Qian, M. R., Wang, Q. Y., Yang, H., Sun, G. Z., Ke, X. B., Huang, L. L., . . . Yang, B. (2017). Diffusion-limited pbpk model for predicting pulmonary pharmacokinetics of florfenicol in pig. *Journal of Veterinary Pharmacology and Therapeutics, 40*(6), e30-e38. doi:10.1111/jvp.12419

Quinious, N., & Noblet, J. (1995). Prediction of tissular body composition from protein and lipid deposition in growing pigs. *Journal of Animal Science, 73*(6), 1567-1575. doi:10.2527/1995.7361567x

Rawy, M., Mido, S., El-sheikh Ali, H., Derar, D., Megahed, G., Kitahara, G., & Osawa, T. (2018). Effect of exogenous estradiol benzoate on uterine blood flow in postpartum dairy cows. *Animal Reproduction Science, 192*, 136-145. doi:10.1016/j.anireprosci.2018.03.001

Reeves, J. T., & Leathers, J. E. (1964a). Circulatory changes following birth of the calf and the effect of hypoxia. *Circulation Research, 15*(4), 343-354. doi:10.1161/01.RES.15.4.343

Reeves, J. T., & Leathers, J. E. (1964b). Hypoxic pulmonary hypertension of the calf with denervation of the lungs. *J Appl Physiol, 19*, 976-980. doi:10.1152/jappl.1964.19.5.976

Rehfeldt, C., Tuchscherer, A., Hartung, M., & Kuhn, G. (2008). A second look at the influence of birth weight on carcass and meat quality in pigs. *Meat Science, 78*(3), 170-175. doi:10.1016/j.meatsci.2007.05.029

Remling, N., Riede, S., Meyer, U., Beineke, A., Breves, G., Flachowsky, G., & Dänicke, S. (2017). Influence of fumaric acid on ruminal parameters and organ weights of growing bulls fed with grass or maize silage. *Animal, 11*(10), 1754-1761. doi:10.1017/S1751731117000696

Reynolds, C. K., Dürst, B., Lupoli, B., Humphries, D. J., & Beever, D. E. (2004). Visceral tissue mass and rumen volume in dairy cows during the transition from late gestation to early lactation. *Journal of Dairy Science, 87*(4), 961-971. doi:10.3168/jds.S0022-0302(04)73240-3

Reynolds, C. K., & Huntington, G. B. (1988). Partition of portal-drained visceral net flux in beef steers. *British Journal of Nutrition, 60*(03), 539. doi:10.1079/BJN19880126

Reynolds, C. K., Tyrrell, H. F., & Reynolds, P. J. (1991a). Effects of diet forage-to-concentrate ratio and intake on energy metabolism in growing beef heifers: Net nutrient metabolism by visceral tissues. *The Journal of Nutrition, 121*(7), 1004-1015. doi:10.1093/jn/121.7.1004

Reynolds, C. K., Tyrrell, H. F., & Reynolds, P. J. (1991b). Effects of diet forage-to-concentrate ratio and intake on energy metabolism in growing beef heifers: Whole body energy and nitrogen balance and visceral heat production. *The Journal of Nutrition, 121*(7), 994-1003. doi:10.1093/jn/121.7.994

Rhodes, M. T., Paterson, J. A., Kerley, M. S., Garner, H. E., & Laughlin, M. H. (1991). Reduced blood flow to peripheral and core body tissues in sheep and cattle induced by endophyte-infected tall fescue. *Journal of Animal Science, 69*(5), 2033-2043. doi:10.2527/1991.6952033x

Robelin, J. (1981). Cellularity of bovine adipose tissues: Developmental changes from 15 to 65 percent mature weight. *Journal of Lipid Research, 22*(3), 452-457.

Robertson, I. S., Wilson, J. C., & Morris, P. G. (1967). Growth in castrated cattle. Growth, carcase composition and sexual development in bulls, steers and cattle castrated by baiburtcjan's method. *The Veterinary Record, 81*(4), 88-103.

Røjen, B. A., Theil, P. K., & Kristensen, N. B. (2011). Effects of nitrogen supply on inter-organ fluxes of urea-n and renal urea-n kinetics in lactating holstein cows. *Journal of Dairy Science, 94*(5), 2532-2544. doi:10.3168/jds.2010-3949

Rotta, P. P., Filho, S. C. V., Gionbelli, T. R. S., Costa e Silva, L. F., Engle, T. E., Marcondes, M. I., . . . Lobo, A. A. G. (2015). Effects of day of gestation and feeding regimen in holstein × gyr cows: Ii. Maternal and fetal visceral organ mass. *Journal of Dairy Science, 98*(5), 3211-3223. doi:10.3168/jds.2014-8282

Rotta, P. P., Valadares Filho, S. C., Gionbelli, T. R. S., Costa e Silva, L. F., Engle, T. E., Marcondes, M. I., . . . Oliveira, J. R. S. (2015). Effects of day of gestation and feeding regimen in holstein × gyr cows: Iii. Placental adaptations and placentome gene expression. *Journal of Dairy Science, 98*(5), 3224-3235. doi:10.3168/jds.2014-8283

Rudolph, A. M., & Yuan, S. (1966). Response of the pulmonary vasculature to hypoxia and h+ ion concentration changes. *Journal of Clinical Investigation, 45*(3), 399-411. doi:10.1172/JCI105355

Rumsey, T. S., Elsasser, T. H., Kahl, S., Moseley, W. M., & Solomon, M. B. (1996). Effects of synovex-s and recombinant bovine growth hormone (somavubove) on growth responses of steers: I. Performance and composition of gain. *Journal of Animal Science, 74*(12), 2917. doi:10.2527/1996.74122917x

Russett, J. C., Krider, J. L., Cline, T. R., & Underwood, L. B. (1979). Choline requirement of young swine. *Journal of Animal Science, 48*(6), 1366-1373. doi:10.2527/jas1979.4861366x

Ruusunen, M., Partanen, K., Pösö, R., & Puolanne, E. (2007). The effect of dietary protein supply on carcass composition, size of organs, muscle properties and meat quality of pigs. *Livestock Science, 107*(2-3), 170-181. doi:10.1016/j.livsci.2006.09.021

Sainz, R. D., & Bentley, B. E. (1997). Visceral organ mass and cellularity in growth-restricted and refed beef steers. *Journal of Animal Science, 75*(5), 1229. doi:10.2527/1997.7551229x

Sainz, R. D., De la Torre, F., & Oltjen, J. W. (1995). Compensatory growth and carcass quality in growth-restricted and refed beef steers. *Journal of Animal Science, 73*(10), 2971. doi:10.2527/1995.73102971x

Sangild, P. T., Schmidt, M., Jacobsen, H., Fowden, A. L., Forhead, A., Avery, B., & Greve, T. (2000). Blood chemistry, nutrient metabolism, and organ weights in fetal and newborn calves derived from in vitro-produced bovine embryos. *Biology of Reproduction, 62*(6), 1495-1504. doi:10.1095/biolreprod62.6.1495

Santos, P. V. d., Paris, W., Menezes, L. F. G. d., Vonz, D., Silveira, M. F. d., & Tubin, J. (2013). Carcass physical composition and meat quality of holstein calves, terminated in different finishing systems and slaughter weights. *Ciência e Agrotecnologia, 37*(5), 443-450. doi:10.1590/S1413-70542013000500008

Scheaffer, A. N., Caton, J. S., Bauer, M. L., & Reynolds, L. P. (2001). Influence of pregnancy on body weight, ruminal characteristics, and visceral organ mass in beef heifers. *Journal of Animal Science, 79*(9), 2481. doi:10.2527/2001.7992481x

Schelstraete, W., Clerck, L., Govaert, E., Millecam, J., Devreese, M., Deforce, D., . . . Croubels, S. (2019). Characterization of porcine hepatic and intestinal drug metabolizing cyp450: Comparison with human orthologues from a quantitative, activity and selectivity perspective. *Sci Rep, 9*(1), 9233. doi:10.1038/s41598-019-45212-0

Schlegel, M. L., Bergen, W. G., Schroeder, A. L., VandeHaar, M. J., & Rust, S. R. (2006). Use of bovine somatotropin for increased skeletal and lean tissue growth of holstein steers. *Journal of Animal Science, 84*(5), 1176-1187. doi:10.2527/2006.8451176x

Schöne, F., Kirchheim, U., Schumann, W., & Lüdke, H. (1996). Apparent digestibility of high-fat rapeseed press cake in growing pigs and effects on feed intake, growth and weight of thyroid and liver. *Animal Feed Science and Technology, 62*(2), 97-110. doi:10.1016/S0377-8401(96)00993-5

Schumann, B., Dänicke, S., Meyer, U., Ueberschär, K.-H., & Breves, G. (2007). Effects of different levels of ergot in concentrates on the growing and slaughtering performance of bulls and on carry-over into edible tissue. *Archives of Animal Nutrition, 61*(5), 357-370. doi:10.1080/17450390701556726

Segerson, E. C., Hansen, T. R., Libby, D. W., Randel, R. D., & Getz, W. R. (1984). Ovarian and uterine morphology and function in angus and brahman cows. *Journal of Animal Science, 59*(4), 1026-1046.

Settlemire, C. T., Hibbs, J. W., & Conrad, H. R. (1964). Basal metabolic rate, pulse rate, respiration rate, and certain organ weights in relation to neonatal iron deficiency anemia in dairy calves1. *Journal of Dairy Science, 47*(8), 875-878. doi:<https://doi.org/10.3168/jds.S0022-0302(64)88793-2>

Shahin, K. A., & Berg, R. T. (1985a). Growth and distribution of muscle in double muscled and normal cattle. *Canadian Journal of Animal Science, 65*(2), 307-318. doi:10.4141/cjas85-037

Shahin, K. A., & Berg, R. T. (1985b). Growth patterns of muscle, fat and bone, and carcass composition of double muscled and normal cattle. *Canadian Journal of Animal Science, 65*(2), 279-293. doi:10.4141/cjas85-035

Shahin, K. A., Berg, R. T., & Price, M. A. (1986). Sex differences in carcass composition and tissue distribution in mature double muscled cattle. *Canadian Journal of Animal Science, 66*(3), 625-636. doi:10.4141/cjas86-069

Shakeri, P., Riasi, A., & Alikhani, M. (2014). Effects of long period feeding pistachio by-product silage on chewing activity, nutrient digestibility and ruminal fermentation parameters of holstein male calves. *Animal, 8*(11), 1826-1831. doi:10.1017/s1751731114001621

Sharman, E. D., Lancaster, P. A., McMurphy, C. P., Mafi, G. G., Starkey, J. D., Krehbiel, C. R., & Horn, G. W. (2013). Effect of rate of body weight gain of steers during the stocker phase. Ii. Visceral organ mass and body composition of growing-finishing beef cattle. *Journal of Animal Science, 91*(5), 2355-2366. doi:10.2527/jas.2012-5451

Shebley, M., Sandhu, P., Emami Riedmaier, A., Jamei, M., Narayanan, R., Patel, A., . . . Rowland, M. (2018). Physiologically based pharmacokinetic model qualification and reporting procedures for regulatory submissions: A consortium perspective. *Clin Pharmacol Ther, 104*(1), 88-110. doi:10.1002/cpt.1013

Shelton, J. L., Southern, L. L., LeMieux, F. M., Bidner, T. D., & Page, T. G. (2004). Effects of microbial phytase, low calcium and phosphorus, and removing the dietary trace mineral premix on carcass traits, pork quality, plasma metabolites, and tissue mineral content in growing-finishing pigs. *Journal of Animal Science, 82*(9), 2630-2639. doi:10.2527/2004.8292630x

Smit, M. N., & Beltranena, E. (2017). Effects of feeding camelina cake to weaned pigs on safety, growth performance, and fatty acid composition of pork. *Journal of Animal Science, 95*(6), 2496. doi:10.2527/jas2016.1265

Smith, N. E., & Baldwin, R. L. (1974). Effects of breed, pregnancy, and lactation on weight of organs and tissues in dairy cattle. *Journal of Dairy Science, 57*(9), 1055-1060. doi:10.3168/jds.S0022-0302(74)85008-3

Soltan, M. (2009). Effect of essential oils supplementation on growth performance, nutrient digestibility, health condition of holstein male calves during pre-and post-weaning periods. *Pakistan Journal of Nutrition, 8*(5), 642-652.

Sprinkle, J. E., Ferrell, C. L., Holloway, J. W., Warrington, B. G., Greene, L. W., Wu, G., & Stuth, J. W. (1998). Adipose tissue partitioning of limit-fed beef cattle and beef cattle with ad libitum access to feed differing in adaptation to heat. *Journal of Animal Science, 76*(3), 665. doi:10.2527/1998.763665x

Stabel, J. R., Spears, J. W., & Brown, T. T. (1993). Effect of copper deficiency on tissue, blood characteristics, and immune function of calves challenged with infectious bovine rhinotracheitis virus and pasteurella hemolytica. *Journal of Animal Science, 71*(5), 1247-1255. doi:10.2527/1993.7151247x

Stahly, T. S., & Cromwell, G. L. (1979). Effect of environmental temperature and dietary fat supplementation on the performance and carcass characteristics of growing and finishing swine. *Journal of Animal Science, 49*(6), 1478-1488. doi:10.2527/jas1979.4961478x

Stowe, C. M., & Good, A. L. (1960). Estimation of cardiac output in calves and sheep by the dye and fick oxygen techniques. *American Journal of Physiology-Legacy Content, 198*(5), 987-990. doi:10.1152/ajplegacy.1960.198.5.987

Swanson, E. W., & Poffenbarger, J. I. (1979). Mammary gland development of dairy heifers during their first gestation. *Journal of Dairy Science, 62*(5), 702-714. doi:10.3168/jds.S0022-0302(79)83313-5

Swett, W. W., Matthews, C. A., Miller, F. W., & Graves, R. R. (1933). *Variations recorded in the study of the conformation and anatomy of 318 dairy cows having records of production* (Mimeo. Pub. BDIM-589). Retrieved from Washington, DC: files/641/scholar\_lookup.html

Talton, C. S., Stelzleni, A. M., Shook, J. S., Hill, G. M., Kerth, C. R., Pence, M., & Pringle, T. D. (2014). Effects of ovariectomization and ractopamine hydrochloride inclusion on heifer feedlot performance, meat yield, and tenderness of select muscles. *Meat Science, 96*(1), 73-81. doi:10.1016/j.meatsci.2013.06.016

Tamate, H., McGilliard, A. D., Jacobson, N. L., & Getty, R. (1962). Effect of various dietaries on the anatomical development of the stomach in the calf. *Journal of Dairy Science, 45*(3), 408-420. doi:10.3168/jds.S0022-0302(62)89406-5

Tan, Y. M., Worley, R. R., Leonard, J. A., & Fisher, J. W. (2018). Challenges associated with applying physiologically based pharmacokinetic modeling for public health decision-making. *Toxicol Sci, 162*(2), 341-348. doi:10.1093/toxsci/kfy010

Taylor-Edwards, C. C., Burrin, D. G., Holst, J. J., McLeod, K. R., & Harmon, D. L. (2011). Glucagon-like peptide-2 (glp-2) increases small intestinal blood flow and mucosal growth in ruminating calves. *Journal of Dairy Science, 94*(2), 888-898. doi:10.3168/jds.2010-3540

Terré, M., Devant, M., & Bach, A. (2007). Effect of level of milk replacer fed to holstein calves on performance during the preweaning period and starter digestibility at weaning. *Livestock Science, 110*(1), 82-88. doi:<https://doi.org/10.1016/j.livsci.2006.10.001>

Terry, C. A., Knapp, R. H., Edwards, J. W., Mies, W. L., Savell, J. W., & Cross, H. R. (1990). Yields of by-products from different cattle types. *Journal of Animal Science, 68*(12), 4200-4205. doi:10.2527/1990.68124200x

Tischendorf, F., Schone, F., Kirchheim, U., & Jahreis, G. (2002). Influence of a conjugated linoleic acid mixture on growth, organ weights, carcass traits and meat quality in growing pigs. *Journal of Animal Physiology and Animal Nutrition, 86*(3-4), 117-128. doi:10.1046/j.1439-0396.2002.00366.x

Tokach, M. D., Goodband, B. D., & O'Quinn, T. G. (2016). Performance-enhancing technologies in swine production. *Animal Frontiers, 6*(4), 15-21. doi:10.2527/af.2016-0039

Tornero-Velez, R., Mirfazaelian, A., Kim, K. B., Anand, S. S., Kim, H. J., Haines, W. T., . . . Fisher, J. W. (2010). Evaluation of deltamethrin kinetics and dosimetry in the maturing rat using a pbpk model. *Toxicol Appl Pharmacol, 244*(2), 208-217. doi:10.1016/j.taap.2009.12.034

Tranquilli, W. J., Parks, C. M., Thurmon, J. C., Benson, G. J., Koritz, G. D., Manohar, M., & Theodorakis, M. C. (1982). Organ blood flow and distribution of cardiac output in nonanesthetized swine. *American Journal of Veterinary Research, 43*(5), 895-897.

Unruh, J. A., Gray, D. G., & Dikeman, M. E. (1986). Implanting young bulls with zeranol from birth to four slaughter ages: I. Live measurements, behavior, masculinity and carcass characteristics. *Journal of Animal Science, 62*(2), 279-289. doi:10.2527/jas1986.622279x

Upton, R. N. (2008). Organ weights and blood flows of sheep and pig for physiological pharmacokinetic modelling. *Journal of Pharmacological and Toxicological Methods, 58*(3), 198-205. doi:10.1016/j.vascn.2008.08.001

USDA. (2019a). National daily cattle & beef summary. United states department of agriculture (usda) livestock poultry grain market news, des moines, iowa. Monday, november 25, 2019. Available at: <Https://www.Ams.Usda.Gov/mnreports/lsddcbs.Pdf>.

USDA. (2019b). National daily direct hog prior day report - slaughtered swine. United states department of agriculture (usda) livestock poultry grain market news, des moines, iowa. Monday, november 25, 2019. Available at: <Https://www.Ams.Usda.Gov/mnreports/lm_hg201.Txt>.

USDA. (2019c). *United states national residue program for meat, poultry, and egg products: 2019 residue sampling plans*. Retrieved from <https://www.fsis.usda.gov/wps/wcm/connect/394f0bd4-2c5d-47bc-ba4f-f65992972e43/2019-blue-book.pdf?MOD=AJPERES>

van Woerkens, L. J., Duncker, D. J., Huigen, R. J., Van Der Giessen, W. J., & Verdouw, P. D. (1990). Redistribution of cardiac output caused by opening of arteriovenous anastomoses by a combination of azaperone and metomidate. *British Journal of Anaesthesia, 65*(3), 393-399. doi:10.1093/bja/65.3.393

van Woerkens, L. J., Man inʼt Veld, A. J., van der Giessen, W. J., van Meegen, J., Boomsma, F., & Verdouw, P. D. (1992). Effect of epinine on systemic hemodynamics and regional blood flow in conscious pigs. *Journal of Cardiovascular Pharmacology, 19*(4), 580-586. doi:10.1097/00005344-199204000-00015

Velayudhan, D. E., Schuh, K., Woyengo, T. A., Sands, J. S., & Nyachoti, C. M. (2017). Effect of expeller extracted canola meal on growth performance, organ weights, and blood parameters of growing pigs. *Journal of Animal Science, 95*(1), 302. doi:10.2527/jas2016.1046

Velazco, J., Morrill, J. L., Kropf, D. H., Brandt, R. T., Harmon, D. L., Preston, R. L., & Clarenburg, R. (1997). The use of urea dilution for estimation of carcass composition of holstein steers at 3, 6, 9, and 12 months of age. *Journal of Animal Science, 75*(1), 139. doi:10.2527/1997.751139x

Veum, T. L., Ledoux, D. R., Shannon, M. C., & Raboy, V. (2009). Effect of graded levels of iron, zinc, and copper supplementation in diets with low-phytate or normal barley on growth performance, bone characteristics, hematocrit volume, and zinc and copper balance of young swine. *Journal of Animal Science, 87*(8), 2625-2634. doi:10.2527/jas.2008-1604

Vinegar, A. (1999). *Development of a physiologically based pharmacokinetic model for the anesthetics halothane, isoflurane, and desflurane in the pig (sus scrofa)* (AFRL-HE-WP-TR-1999-0236). Retrieved from

Vogstad, A. R., Stokes, B. T., Perz, K. A., Wurtz, T. T., Hoyt, M. A., Spence, K. C., & Duff, G. C. (2015). Evaluation of a high or low level of milk replacer, with or without varied intake, on neonatal holstein calf performance and health. *The Professional Animal Scientist, 31*(2), 159-166. doi:<https://doi.org/10.15232/pas.2014-01353>

Waldern, D. E., Johnson, V. L., & Blosser, T. H. (1963). Cardiac output in the bovine and its relationship to rumen and portal volatile fatty acid concentration. *Journal of Dairy Science, 46*(4), 327-332. doi:10.3168/jds.S0022-0302(63)89040-2

Wang, H., Chen, Y., Zhao, Y. n., Liu, H., Liu, J., Makkar, H. P. S., & Becker, K. (2011). Effects of replacing soybean meal by detoxified jatropha curcas kernel meal in the diet of growing pigs on their growth, serum biochemical parameters and visceral organs. *Animal Feed Science and Technology, 170*(1-2), 141-146. doi:10.1016/j.anifeedsci.2011.08.004

Wangsness, P. J., & McGilliard, A. D. (1972). Measurement of portal blood flow in calves by dye-dilution. *Journal of Dairy Science, 55*(10), 1439-1446. doi:10.3168/jds.S0022-0302(72)85691-1

Wanner, M., Ziv, G., Nicolet, J., Noelpp, U. P., & Roesler, H. (1981). Experiments with the double isotope single-injection method for determining glomerular filtration rate and effective renal plasma flow in veal calves. *Research in Veterinary Science, 30*(2), 239-240. doi:10.1016/S0034-5288(18)32588-8

Weaver, A., See, M., Hansen, J., Kim, Y., De Souza, A., Middleton, T., & Kim, S. (2013). The use of feed additives to reduce the effects of aflatoxin and deoxynivalenol on pig growth, organ health and immune status during chronic exposure. *Toxins, 5*(7), 1261-1281. doi:10.3390/toxins5071261

Weber, K. T., Dennison, B. H., Fuqua, J. M., Speaker, D. M., & Hastings, F. W. (1971). Hemodynamic measurements in unanesthetized calves. *The Journal of Surgical Research, 11*(8), 383-389.

Weber, K. T., Malinin, T. I., Dennison, B. H., Fuqua, J. M., Speaker, D. M., & Hastings, F. W. (1972). Experimental myocardial ischemia and infarction: Production of diffuse myocardial lesions in unanesthetized calves. *The American Journal of Cardiology, 29*(6), 793-802. doi:10.1016/0002-9149(72)90497-3

Weir, E. K., Tucker, A., Reeves, J. T., Will, D. H., & Grover, R. F. (1974). The genetic factor influencing pulmonary hypertension in cattle at high altitude. *Cardiovascular Research, 8*(6), 745-749. doi:10.1093/cvr/8.6.745

Weisgold, A. D., & Almquist, J. O. (1979). Reproductive capacity of beef bulls. Vi. Daily spermatozoal production, spermatozoal reserves and dimensions and weight of reproductive organs. *Journal of Animal Science, 48*(2), 351-358. doi:10.2527/jas1979.482351x

Whitt, J., Huntington, G., Zetina, E., Casse, E., Taniguchi, K., & Potts, W. (1996). Plasma flow and net nutrient flux across gut and liver of cattle fed twice daily. *Journal of Animal Science, 74*(10), 2450-2461. doi:10.2527/1996.74102450x

Whittow, G. C. (1965). The effect of hyperthermia on the systemic and pulmonary circulation of the ox (<i>bos taurus</i>). *Quarterly Journal of Experimental Physiology and Cognate Medical Sciences, 50*(3), 300-311. doi:10.1113/expphysiol.1965.sp001796

WHO. (2010). Guidance on principles of characterizing and applying pbpk models in risk assessment. World health organization (who), international programme on chemical safety (ipcs), geneva, switzerland. Available at: <Https://www.Who.Int/ipcs/methods/harmonization/areas/pbpk_models.Pdf?Ua=1> (accessed date: April 15, 2019).

Will, D. H., McMurtry, I. F., Reeves, J. T., & Grover, R. F. (1978). Cold-induced pulmonary hypertension in cattle. *Journal of Applied Physiology, 45*(3), 469-473. doi:10.1152/jappl.1978.45.3.469

Williams, P. E. V., Pagliani, L., Innes, G. M., Pennie, K., Harris, C. I., & Garthwaite, P. (1987). Effects of a β-agonist (clenbuterol) on growth, carcass composition, protein and energy metabolism of veal calves. *British Journal of Nutrition, 57*(03), 417. doi:10.1079/BJN19870049

Wise, T., Young, L. D., & Pond, W. G. (1993). Reproductive, endocrine, and organ weight differences of swine selected for high or low serum cholesterol. *Journal of Animal Science, 71*(10), 2732-2738. doi:10.2527/1993.71102732x

Wiseman, T. G., Mahan, D. C., Peters, J. C., Fastinger, N. D., Ching, S., & Kim, Y. Y. (2007). Tissue weights and body composition of two genetic lines of barrows and gilts from twenty to one hundred twenty-five kilograms of body weight. *Journal of Animal Science, 85*(7), 1825-1835. doi:10.2527/jas.2006-407

Woelfel, C. G., Rousseau, J. E., Kersting, E. J., Nielsen, S. W., & Lucas, J. J. (1964). Intraocular pressure of vitamin a-deficient holstein male calves1. *Journal of Dairy Science, 47*(6), 655-657. doi:<https://doi.org/10.3168/jds.S0022-0302(64)88743-9>

Wood, K. M., Awda, B. J., Fitzsimmons, C., Miller, S. P., McBride, B. W., & Swanson, K. C. (2013). Effect of moderate dietary restriction on visceral organ weight, hepatic oxygen consumption, and metabolic proteins associated with energy balance in mature pregnant beef cows. *Journal of Animal Science, 91*(9), 4245-4255. doi:10.2527/jas.2013-6421

Yen, J. T., & Killefer, J. (1987). A method for chronically quantifying net absorption of nutrients and gut metabolites into hepatic portal vein in conscious swine. *Journal of Animal Science, 64*(3), 923-934. doi:10.2527/jas1987.643923x

Yen, J. T., Nienaber, J. A., Hill, D. A., & Pond, W. G. (1989). Oxygen consumption by portal vein-drained organs and by whole animal in conscious growing swine. *Experimental Biology and Medicine, 190*(4), 393-398. doi:10.3181/00379727-190-42878

Yen, J. T., Nienaber, J. A., Klindt, J., & Crouse, J. D. (1991). Effect of ractopamine on growth, carcass traits, and fasting heat production of u.S. Contemporary crossbred and chinese meishan pure- and crossbred pigs. *Journal of Animal Science, 69*(12), 4810-4822. doi:10.2527/1991.69124810x

Yoon, M., Kedderis, G. L., Yan, G. Z., & Clewell, H. J., 3rd. (2015). Use of in vitro data in developing a physiologically based pharmacokinetic model: Carbaryl as a case study. *Toxicology, 332*, 52-66. doi:10.1016/j.tox.2014.05.006

Yuan, L. G., Luo, X. Y., Zhu, L. X., Wang, R., & Liu, Y. H. (2011). A physiologically based pharmacokinetic model for valnemulin in rats and extrapolation to pigs. *Journal of Veterinary Pharmacology and Therapeutics, 34*(3), 224-231. doi:10.1111/j.1365-2885.2010.01230.x

Zeng, D., Lin, Z., Zeng, Z., Fang, B., Li, M., Cheng, Y.-H., & Sun, Y. (2019). Assessing global human exposure to t-2 toxin via poultry meat consumption using a lifetime physiologically based pharmacokinetic model. *Journal of Agricultural and Food Chemistry, 67*(5), 1563-1571. doi:10.1021/acs.jafc.8b07133