

KEYWORD INDEX

Numbers following keywords refer to abstract numbers. The keyword index is created directly and automatically from the submitted abstracts. Efforts have been made to make this index consistent; however, error from author entry contributes to inaccuracies.

A

- abatement, 648, 678
- ABL, 1125
- absolute and relative microbiota quantifications, 1739
- absorption, 351, 1879
- acceleration, 223
- accelerometer, 34, 57, 899
- Acetate, 1742
- acetic acid, 1088
- acetyl CoA, 669
- acetyl-CoA carboxylase promoters, 1224
- β -acid, 1754
- acid whey, 260
- acid-induced gelation, 328
- acidic pH, 487
- acidosis, 718, 1704, 1858
- activated carbon, 330
- activity, 184, 824, 560
- activity and rumination, 360
- activity monitor, 543
- activity monitoring, 344
- acute phase proteins, 98
- acute stress, 65
- acute-phase reaction, 518
- adaptability, 821
- adaptation, 1637
- additive, 1091, 1346, 1652, 1685, 1704, 1726
- additive and non-additive genetic effects, 163
- additivity, 435
- adhesion, 81
- adipocyte, 1190, 1396
- adipocyte cellularity, 420
- adipogenesis, 507, 963, 1180, 1184
- adiponectin, 1393
- adipose, 602, 1236
- adipose depot, 1436
- adipose tissue, 891, 1225, 1375, 1379, 1381, 1385, 1393, 1395, 1435
- β -adrenergic agonist, 567, 569, 1500, 1645
- β -adrenergic receptor, 374
- adsorbent, 1099, 1430
- aeration, 328
- aerobic stability, 307, 1079
- aflatoxin, 300, 1058, 1430
- aflatoxin B1, 299, 1056
- AFM, 272
- AFM1, 330
- Africa, 785
- age, 24, 977
- age at first breeding, 1178
- age at first calving, 1178
- aged garlic extract, 1328, 1466
- aggression, 47, 50
- aging, 63, 1198
- aging times, 1270
- β -agonist, 424, 499, 598, 909, 1868
- agriculture, 430
- AICAR, 25, 788
- air temperature, 826
- AjiPro-L, 1534
- Akhal-Teke Horse, 1206
- alanine, 1560
- albizia, 454
- albumen, 1302, 1305
- albumin, 1163
- alfalfa, 213, 317, 574, 727, 1089, 1107, 1117, 1809
- alfalfa hay, 306, 1588, 1620
- alfalfa Lc C1 transgenic, 980
- alfalfa silage, 308
- algae, 901, 1146
- alkaloid, 1099
- allantoin, 1532
- allele frequencies distribution, 941
- allele frequency, 942
- allele frequency change, 939
- allergenicity, 237
- allicin, 1341
- alliestesia, 1351
- alpha S1-casein, 15
- alpha-casein, 1019
- altered temporal regulation, 1181
- alternative feed, 471, 1347, 1633
- alternative fiber sources, 316
- alternative proteins, 1658
- alyceclover, 1097
- amaferm, 1623
- α -amilase, 1616
- amino acid, 224, 435, 437, 459, 617, 659, 661, 662, 699, 749, 752, 974, 1199, 1200, 1309, 1325, 1529, 1532, 1533, 1539, 1549, 1553, 1590, 1661, 1753
- amino acid digestibility, 442, 441, 444, 1298, 1308, 1349
- amino acid infusion, 1547
- amino acid oxidation, 1541
- amino acid probiotic, 389
- amino acid utilization, 1536
- γ -amino butyric acid, 1772, 1774
- ammonia nitrogen, 1568
- amplicon-Seq, 214
- α -amylase, 307, 1093, 1614
- anaerobic bacterial cultivation in vitro, 1784
- anatomy, 773
- ancillary therapy, 902
- Andropogon gayanus*, 1120
- anestrous, 1452
- anestrus, 985, 1407, 1931
- Angus, 1042
- animal, 60
- animal behavior, 817
- animal care, 110
- animal feed, 295
- animal food, 105
- animal health, 555
- animal model, 811
- animal nutrition, 1936
- animal science, 811, 767
- animal science students, 1959
- animal source food (ASF), 782, 783
- animal welfare, 67, 825
- animal performance, 1740
- amino acid, 478
- γ -aminobutyric acid, 276, 1025, 1548
- annual crop, 1103
- anovulation, 545
- Anta OxE, 1063
- anthelmintic resistance, 736
- anthelmintics, 838
- anti-GnRH, 1277
- anti-inflammatory, 836
- anti-Müllerian hormone, 885
- antibiotic, 553, 1064, 1729, 1733 1738

antibiotic resistance genes, 341
 antimicrobial, 998
 antimicrobial use, 82
 antioxidant, 274, 885, 896, 928, 927,
 1036, 1208, 1290, 1365, 1387, 1424,
 1426, 1442, 1774, 1806
 antioxidant activity, 1019, 1548, 1830
 antioxidant enzymes, 1012
 antioxidant status, 1318, 1861
Antonotha macrophylla, 455
 apelin, 1440
 apocrine gland, 512
 app, 1140
 apparent ruminal synthesis, 1881
 applied research, 1213
 applied science, 111
 approach, 51
 aptasensor, 1056
 aquaculture, 79
 arabinofuranosidases, 477
 Argentina, 1083
 arginine, 475, 661, 1241, 1556, 1557, 661
 arid region, 920
 artificial insemination, 528, 537, 538,
 539, 523, 134, 1043, 540, 1052
 artificial neural networks, 163
 artisan, 11
 ascorbic acid, 1357, 1879
 assignment test, 960
 associative effects, 900
 ATP, 1787
 Atwater, 972
 automated feeder, 36
 automated monitoring system, 1422
 autumn calving, 673
 average daily gain, 132, 136, 1100, 1559,
 1619, 1683, 1924
 average risk optimality, 941
 avian antibodies, 679

B

B vitamins, 183, 1881
Bacillus spp., 1317
Bacillus subtilis Natto, 1758
Bacillus subtilis, 1332
 backfat prediction, 1259
 backgrounding, 139, 144, 216, 663, 709
 backgrounding beef heifers, 1673
 bacteria, 84, 89, 362, 1153, 1238, 1526,
 1884
 bacterial community, 1659, 1783
 bacterial composition, 878
 bacterial diversity, 1941

bacterial populations, 708
 bacteriocins, 1059
 bahamas, 398
 bale feeder, 1096
 bale size, 1096
 baleage, 139, 1471
 balking, 45
 band castration, 809
 Barki ewes, 562
 barley, 216, 448, 1578
 barley grain, 1563
 barley grain processing, 1785
 barley grain, alfalfa hay, 1771
 barley silage, 1091
 barley treated with acid, 600, 692
 barrier function, 717
 batch culture, 637
 BayesC, 940
 Bayesian regularization, 163
 BCS, 1849
 BCS loss, 337
 bedded-pack manure, 1110
 bedding, 84, 808
 beef, 33, 113, 117, 123, 140, 143, 144,
 145, 288, 434, 559, 649, 653, 690,
 703, 863, 892, 901, 907, 911, 912,
 922, 986, 1067, 1256, 1273, 1406,
 1516, 1518, 1770
 beef breeding, 42
 beef cattle, 118, 127, 135, 137, 139, 226,
 318, 320, 425, 566, 570, 595, 689,
 701, 711, 901, 917, 929, 938, 982,
 1037, 1046, 1047, 1103, 1112, 1271,
 1425, 1450, 1501, 1513, 1514, 1569,
 1577, 1578, 1621, 1622, 1627, 1668,
 1732, 1839, 1888
 beef cattle herd expansion, 120
 beef cow, 124, 227, 490, 509, 517, 538,
 540, 918, 1397, 1414, 1415, 1417
 beef heifers, 523, 539, 563, 1373, 1473,
 1785
 beef industry, 291
 beef production, 1510
 beef quality assurance, 1044
 beef tenderness, 684
 beef traits, 931
 behavior, 8, 32, 35, 45, 54, 55, 93, 229,
 232, 569, 791, 796, 866, 899, 1040,
 1194, 1573, 1810, 1946
 behavior evaluation, 1207
 behavioral laterality, 792
 behaviour, 615, 915
 benzoate, 1276
 Berkshire, 959

bermudagrass, 317, 1095
 betaine, 742, 835
 bias, 103, 1906
 bias and conflict of interest, 110
 bioactive proteins, 1209
 bioactives, 277
 bioactivity, 278
 bioassay, 1889
 bioavailability, 660, 686, 721, 1531,
 1534, 1537, 1890, 1896
 biochemical parameters, 1444
 biodiesel, 1690, 1914, 1936
 biodiesel by-product, 1347
 biodiesel co-product, 1677
 biodiversity, 315
 bioenergy feedstock, 1118
 biofilm, 1065
 biofluids, 510
 biofuel, 456, 469
 biogas, 1633
 biogenic amines, 1774
 biohydrogenation, 637, 1586, 1690, 1761,
 1719
 bioinformatics, 596, 597, 778, 1819, 1823
 biological active whey protein, 1281
 biomarker, 847
 biometric measurements, 1197
 biomin BBSH 797, 760, 1314
 biotechnology, 786
 biotransformation, 760, 1314
 bird depredation, 1486
 birdsfoot trefoil, 1105
 birdsfoot trefoil pasture, 1069
 blood, 1864
 blood analytes, 567
 blood endotoxin, 1772
 blood flow, 488
 blood gas, 151
 blood hormone, 1865
 blood material metabolism, 1798
 blood metabolism, 1803, 1804, 1805
 blood metabolite, 1745, 1907, 1911
 blood perfusion, 541
 blood profiles, 1322, 1330
 blood-milk barrier, 412
 boar, 747, 766
 boar fertility traits, 170
 body condition score, 564, 1849
 body fat, 126
 body protein, 126
 body score, 1683
 body score condition, 1846
 body temperature, 580

- body weight, 157, 286, 1498, 1683, 1826, 1909
- body weight loss, 337
- boer, 1902
- bone, 384
- Bos indicus*, 937, 1161, 1438, 1576
- Bos taurus*, 1438
- botanical composition, 320
- bovine, 85, 368, 837, 857, 865, 876, 1193, 1237, 1276, 1380, 1427, 1517, 1806, 1828
- bovine adipocytes, 1384
- bovine and caprine milks, 1019
- bovine endometrial cell, 487
- bovine forestomach epithelial cells, 666
- bovine intramuscular adipose cell, 1192
- bovine liver, 1157
- bovine macrophages (BoMacs), 831
- bovine mammary epithelial cell, 1223, 1234
- bovine mammary epithelial cells (Mac-T), 1651
- bovine mammary gland, 979, 1227
- bovine milk, 1280
- bovine ovarian function, 535
- bovine respiratory disease, 75, 82, 902, 913
- bovine viral diarrhea virus, 833
- BQA guidelines, 568
- brachiaria brizantha, 1559, 1570, 1574, 1619
- Brachiaria* spp., 1120
- branched-chain amino acids, 376
- Brazil, 1216, 1791
- BRD, 32, 37, 898
- breed, 114, 158, 240, 592, 1020
- breed differences, 722
- breed-specific, 942
- breeding, 47
- broiler, 793, 1335, 1366, 1367
- broiler nutrition, 456
- broilers, 485, 1322, 1323, 1324, 1327, 1328, 1332, 1333, 1337, 1467, 1509
- brome, 897
- bromelain, 1326
- brown midrib, 1086
- brown midrib corn silage, 1070
- BTA 14, 966
- bta-miR-145, 1228
- buckets, 1470
- buffalo, 299, 396, 526, 675, 957
- buffalo and cattle, 179
- buffalo milk, 1502
- bulk tank milk, 85
- bulk-tank somatic cell counts, 556
- bull, 131, 527, 802, 805, 1185
- bull sexual maturity, 525
- bull test, 1037
- bupleurum extract, 1798, 1800, 1804, 1862
- butirate, 1742
- buttermilk, 511
- butyrate, 212, 372
- byproduct, 421, 993, 1663, 1664, 1678, 1934
- ## C
- C. parvum*, 90
- Ca supplementation, 883
- calcium, 406, 564, 684, 1142, 1288
- calcium binding protein-9kDa, 729
- calcium caseinate, 1016
- calcium chelator, 268, 349
- calcium chelators, 1009
- calcium depletion, 327
- calcium digestibility, 465
- calcium nitrate, 1928
- calcium oxide, 311
- calcium oxide treatment, 310
- calcium salts of soybean oil, 509
- calf, 24, 32, 43, 69, 132, 232, 336, 370, 613, 614, 615, 619, 621, 624, 677, 693, 790, 856, 858, 862, 904, 1650, 1162, 1166, 1170, 1175, 1195, 1196, 1459, 1179, 1173, 1176, 1462, 1463, 1597, 1656, 1657, 1769, 1880
- calf health, 36
- calf hutch, 1485
- calf milk replacer, 1182
- calf performance, 136, 1450, 1460, 1595, 1658
- calf starter, 561, 618
- calf starter feed, 621
- California Mastitis Test, 852
- calorimetry, 181
- calving, 352
- calving characteristics, 528
- calving management, 287, 1140
- calving prediction, 360
- camel chymosin, 246
- camelina meal, 1361
- candidate gene, 174, 967
- canine, 185, 192, 970, 973
- canning, 183
- canola grain, 1636
- canola meal, 215, 441, 451, 470, 1143, 1294, 1530, 1550, 1606, 1688
- capacitation, 890
- capsicum extract, 208, 367
- carbohydrase, 1320, 1336
- carbohydrate, 694, 921
- carbohydrate nutritional values, 1291
- carbohydrate overload, 1202
- carbohydrate structure, 1291
- carbohydrate-protein matrix structure, 1635
- carbon dioxide, 1133
- carbon footprint, 552, 1511
- carbondioxide, 325
- carcass, 145, 988, 1776
- carcass characteristic, 138, 835, 1489
- carcass quality, 177, 813
- carcass traits, 1448, 937, 967, 1167
- carcass weight, 930
- cardiovascular disease, 1136
- cardiovascular health, 14
- career, 5, 195
- carnosine, 1542
- β -carotene, 250, 1894
- cartilage, 382, 387, 386
- casein, 236, 241, 249, 271, 236, 1018, 1032, 1279, 1283
- casein expression, 1241
- casein synthesis, 788
- α -casein, 1226
- α S1-casein, 1227, 1904
- caseinomacropptide index, 1031
- cashew nut shell liquid, 1751
- cashew nutshell liquid, 1252
- castor oil, 1252
- castrated males, 1910
- castration method, 1244
- castration timing, 813
- cat, 181, 191, 972, 976
- catecholamine, 1443
- categorical regression, 1464
- β -catenin, 1390
- cation substitution, 994
- cattle, 61, 73, 77, 86, 121, 126, 147, 150, 151, 172, 200, 223, 225, 335, 488, 503, 504, 549, 582, 589, 590, 591, 598, 681, 683, 686, 717, 777, 822, 826, 859, 914, 915, 962, 1054, 1055, 1267, 1408, 1472, 1486, 1520, 1575, 1891, 1958
- cattle breeds, 920
- cattle groups, 1874
- cattle handling, 568
- cattle manure, 1220
- cecal pH, 1202, 1203
- cell, 845

cellular composition, 415
cellulase, 1585
cellulolytic bacteria, 1659
cellulosic ethanol, 704
cephapirin, 1522
cervix, 964
CH₄, 1123, 1906
challenges, 122
characteristics, 1002
cheddar cheese, 240, 244
cheese, 11, 15, 31, 239, 247, 249, 302, 333, 990, 992, 997, 1005, 1006, 1014, 1353
cheese composition, 1930
cheese cracker, 999, 1000
cheese digesta matrix, 348
cheese production, 248
cheese yield, 240, 1930
chelate, 1846
chelate minerals, 1305
chelated trace mineral, 1861
chemerin, 1395, 1384
chemical composition, 1126, 1788, 1348, 1631
chemotaxis, 368, 837
Chesapeake Bay, 1047, 1046
chewing activity, 1586
chia seed, 1640
chick weight, 956
chicken, 455, 951, 827, 1296, 853
chickpeas, 1364
china, 740
chitosan, 653
chlortetracycline, 829, 759
chocolate milk, 1023
cholesterol, 1806, 1488
cholesterol metabolism, 508
choline, 1817, 721, 1812
choline chloride, 1896
chondroitin, 1357
chromatography, 1546
chromium, 1374, 1431
chromium-methionine, 1260, 1911
chromosomal region, 936
CIDR, 1414
citrate, 241
citric acid, 1253
citrus, 421
CLA, 238, 242, 386, 1388
claw health, 1861
CLC, 522
cleanliness, 799
clicker training, 806
climate, 766, 585
clinical mastitis, 875, 852
clinical parameters, 881
close-up, 816
clostridial fermentations, 308
Clostridium tyrobutyricum, 991
clover, 317
cluster analysis, 954
CMC, 1010
CNCPS, 1799
CNV, 933
CNVR, 933, 936
co-product, 187, 1901, 1926
co-product feedstuffs, 552
coagulase-negative staphylococci, 413
coat shedding, 938
cobalt-lactate, 688
coconut oil, 1721
code-date, 1134
coefficient of indigestible, 1307
cold stress, 37, 38
collagen, 1671
coloniao, 1127
color, 1235, 1265, 1274
color characteristics, 428
colostrum, 519, 352, 1166, 1883, 839, 856, 1880, 1153, 1479, 1235
combining ability, 1215
commercial cuts, 1277
common vetch, 324
community engagement, 1959
companion, 190
companion animal, 194, 188, 183, 196, 772, 193
comparative, 198, 209
competition, 803, 817
complementarity, 114
composition, 264, 1275, 559
compost, 10
compost barn, 588
compost bedded pack barn, 557, 1051
compost bedding, 874
compound extraction, 1008
computing, 165
concentrate, 1465, 1741
conception, 946
conceptus elongation, 495
condensed tannin, 1748
condensed tannins, 1105
conditioned aversion, 1913
conductive cooling, 586, 1490
confinement, 1265, 821
conflict of interest, 103
conjugated linoleic acid, 1224, 633, 14
conjugated linoleic acid (CLA), 632
consumed, 1619
consumer acceptance, 1036
consumption, 1611
contact time, 1145
continuous culture, 1105, 1754
control, 736
controlled, 668
controlled breeding, 1931, 985
conventional, 566, 1501
cooking losses, 1249
cooled semen, 1208
cooling, 887
cooperative learning, 769
copper, 686, 1472, 746, 757
corn, 305, 1349, 216, 592, 1104, 1348
corn distillers dried grains, 655
corn fiber, 466
corn grazing, 221, 587
corn hybrids, 618
corn milling byproducts, 316
corn oil, 908
corn plant maturity, 1076
corn residue, 316, 1571
corn silage, 304, 306, 607, 609, 621, 904, 1007, 1039, 1071, 1075, 1079, 1080, 1081, 1083, 1087, 1604, 1700, 1809, 1822, 1853
corn silage, dried sugar beet pulp, dairy cows, 609
corn stover, 310, 311, 1077, 1809
corn straw,, 1818
corn varieties, 1114, 1831
CorPet, 838
corpus luteum, 541, 1409
cortisol, 65, 489, 916, 1859
cost of production, 1902
cost-sensitive, 576
cotoonseed, 1834
Coturnix coturnix japonica, 1344
cow, 54, 130, 123, 361, 529, 691, 707, 779, 964, 1385, 1410, 1435, 1469, 1474, 1747, 1813
cow and calf health, 338
cow calf, 1095
cow comfort, 10, 1051
cow hygiene, 800
cow milk, 1281
cow mortality, 943
cow performance, 1460
cow-calf, 690, 1512
cow-calf production, 120
CP, 1117
creep feeding, 1459, 1462
critical thinking, 768

cross-sectional area, 423
 crossbreeding, 170, 733, 1215
 crowding, 1155
 crude glycerin, 1363, 1669
 crude glycerol, 706
 crude protein, 1868
 crude protein level, 1933
 cryopreservation, 927, 1423
Cryptosporidium, 851
 crystal, 992
 crystallization, 1017
 CSFA, 641
 cud chewing, 824
 cull rate, 494
 culling, 71, 94
 culling risk, 572
 culture, 998, 1001, 1003
 curcumin, 1345
 curd, 1558
 curriculum, 193
 CXCR1 genotype, 175, 176
 cyclicality, 919
 Cyp19a1, 1451
 cysteamine, 644
 cysteine, 461
 cytochrome P, 450, 850
 cytokine, 383, 473, 850
 cytosolic phosphoenolpyruvate carboxykinase, 1150

D

2D-DIGE, 375
 daily activity, 359
 daily carcass gain, 1924
 daily live gain, 1834
 daily weight gain, 1625
 dairy, 1, 2, 5, 18, 84, 87, 154, 253, 256, 288, 321, 338, 433, 687, 871, 1036, 1045, 1065, 1072, 1140, 1468, 1529, 1537, 1596, 1759, 1791, 1808
 dairy advisory team, 365
 dairy calf, 7, 27, 37, 38, 90, 371, 372, 789, 795, 797, 803, 818, 1147, 1183, 1492, 1756, 1757
 dairy calf pneumonia, 34
 dairy cattle, 20, 22, 35, 53, 152, 533, 652, 688, 819, 872, 884, 1070, 1159, 1160, 1391, 1508, 1581, 1794, 1796, 1799
 dairy cow, 6, 58, 97, 98, 158, 341, 342, 358, 369, 417, 495, 497, 498, 508, 510, 512, 515, 520, 530, 535, 542, 543, 544, 545, 550, 573, 581, 586, 608, 630, 633, 643, 664, 679, 685, 698, 699, 712, 716, 721, 864, 867, 868, 873, 878, 883, 1044, 1089, 1151, 1156, 1222, 1239, 1374, 1376, 1377, 1381, 1386, 1388, 1398, 1400, 1409, 1412, 1422, 1428, 1431, 1436, 1440, 1454, 1455, 1465, 1475, 1478, 1494, 1498, 1524, 1531, 1539, 1541, 1543, 1589, 1601, 1605, 1649, 1694, 1698, 1711, 1712, 1749, 1751, 1753, 1755, 1760, 1779, 1803, 1804, 1805, 1807, 1815, 1817, 1818, 1820, 1843, 1851, 1855, 1863, 1869, 1873, 1876, 1877, 1879, 1881, 1882, 1883, 1887
 dairy cow feces and urine, 1522, 1523
 dairy cow nutrition, 695
 dairy farm, 364
 dairy foods, 3
 dairy goats, 1499, 1781
 dairy heifer, 9, 44, 92, 804, 1178, 1558, 1686, 1853
 dairy herd improvement, 365
 dairy herd key measures, 365
 dairy herds, 572
 dairy nutrition, 1865
 dairy products, 12, 632, 1008
 dairy profitability, 334
 dairy ruminants, 843
 dairy sheep breed, 733
 dairy slurry, 308
 Damascus goats, 1525
 database, 1763
 date seeds, 562
 5 day CO-Synch, 1414, 1416
 7-day EB-P4, 1416
 days before calving, 360
 300 days grazing, 1038
 DCAD, 369, 719, 981, 1156, 1283, 1829, 1877
 DDGS, 450, 457, 991, 1354
 decision aid tool, 1052
 decision support tool, 289
 decision theory, 941
 decision tool, 292
 deer, 814
 Defensin, 849
 degradability, 1552, 1578, 1618, 1632, 1699
 degradability and digestibility, 1635
 dehorning, 20
 delivery, 236
 demographics, 1955
 DeNovo fatty acids, 640
 density, 1104
 deoxynivalenol, 760, 1365
 depletion flocculation, 269
 deregression, 171
 deuterium oxide, 1432
 developing country, 173, 402
 development, 106, 122, 429, 1171, 1643
 development system, 563
 developmental programming, 128, 393, 395, 661, 1373, 1556, 1557
 dexamethasone, 1200
 Dextran, 266
 DHA, 1146
 DHL, 1779
 DHIA, 575
 diabetes, 108
 diagnosis, 798
 diagnostic, 1811
 diagnostic test accuracy, 355
 diarrhea, 1346
 diet, 388, 1373, 1505, 1747, 1930
 diet by genotype interaction, 1904
 diet composition, 1851
 diet selection, 807
 diet system, 1536, 1807
 dietary aflatoxin, 1369
 dietary cation-anion difference, 720, 729, 1903
 dietary electrolyte balance, 1288, 1350
 dietary energy density, 667, 1842
 dietary fat, 628, 639
 dietary fatty acids, 984
 dietary fiber, 447, 1317
 dietary forage content, 1566
 dietary lipids, 634
 dietary phosphorus, 364
 dietary protein, 364, 971
 dietary starch, 346, 709
 dietary transition, 357
 different processing methods, 1709
 different types of hulless barley grain, 1709
 digestibility, 185, 219, 346, 443, 448, 453, 480, 589, 600, 637, 641, 653, 662, 703, 704, 986, 1034, 1093, 1101, 1125, 1159, 1288, 1292, 1350, 1362, 1364, 1472, 1561, 1582, 1602, 1603, 1611, 1627, 1652, 1689, 1735, 1741, 1767, 1841
 digestibility assay, 1347
 digestible energy, 751

digestible nutrient, 1307
digestion, 237, 267, 329, 613, 614, 1579,
1598, 1612, 1682, 1711
digestive function, 218
digestive physiology, 198
digital dermatitis, 1503
3-dimensional ground reaction forces, 67
dipeptidyl peptidases IV, 1607, 1784
direct fed microbial, 27, 789, 1147, 1778
disbudding, 1152
disease, 60, 61, 78, 101, 231, 497
disposition, 814
distiller grain, 682, 908, 1054, 1686, 1710
distillers dried grains with solubles, 1298
distillers solubles, 628
diurnal variation, 26, 1397
divergent selection, 732, 935
diversity, 1240, 1782
DMA, 1016
DMI, 149
DMSO, 1900
DNA, 1067
DNA methylation, 496
docosahexaenoic acid, 1200, 1201
dog, 97, 977
domperidone, 407
dose, 599, 1584
double gene transfromation, 213
doublesynch, 521
dough lab, 1004
down-expression, 1228
DRD2, 968
dried sugar beet pulp, 609
drought, 121, 305, 430
drug, 105
dry cow housing, 35
dry matter, 1476
dry matter disappearance, 1722
dry matter intake, 306, 1412, 1576, 1702,
1842
dry matter intake prediction, 570, 1464
dry period, 7, 1492, 1493
dry period length, 1222
dry period management, 630
dry-off therapy, 843
drying matter, 1477
dual-flow continuous culture, 1640
dual-flow rumen simulation system, 1599
dulce de leche, 1015
duodenal nutrition flow, 1535
duodenum, 1816
durability, 1512
duration, 599
dynamic impact approach, 841

E

E. coli O157, 217
E. coli O157:H7, 1054
E. coli strains, 81
E. coli F4, 178
early amino acid restrictions, 1289
early gestation, 493
early spring-seeded, 1113
early weaning, 127, 128
eastern gamagrass, 1109
eating rate, 1857
eating time, 1857
EBV, 1184
eCG, 526
echium oil, 1725
ecological services, 315
economic, 112
economic analysis, 1457
economic dashboard, 1048
economic evaluation, 40
economic values, 153
economic weights, 170
economics, 572, 577, 1471
economics and management, 120
education, 287, 290, 1956, 1958
effect, 1935
effects of thermal processing, 182
efficiency, 117, 124, 125, 140, 141, 143,
164, 403, 502, 513, 537, 601, 641,
685, 691, 1319, 1498, 1863
efficiency measures, 1191
effluent, 1094
egg, 1290, 1352
egg quality, 1329, 1331, 1334, 1337,
1356, 1359
egg shell, 955
egg shell strength, 171
egg weight, 953
egg yolk citrate, 1382
ehtics, 111
electrolyte, 1596
electrostatic particle ionization, 886
ELISA, 1164
embryo, 228, 497, 1296, 1427, 1453
embryonic mortality, 1428
emission intensity, 550
emissions, 549, 886
emotion, 1021
empirical model, 1906
empty body weight, 1776
emulsion, 269, 1006, 1010
encapsulated nitrate, 646, 1732
encapsulation, 236
endocrine changes, 1371
endocrine profiling, 1448
endocrine regulation, 1824
endogenous AA, 466
endoglucanase, 1613
endometritis, 496, 534, 1155, 1402
endophyte, 318
endosperm, 1699
endotoxin, 222, 844, 1703, 1858
endurance training, 1136
energetic efficiency, 654
energy, 668, 707, 725, 976, 1363, 1731,
1787, 1898
energy and protein, 980
energy balance, 345, 774, 1429, 1714
energy concentration, 441, 447
energy content, 554
energy conversion efficiency, 1519
energy density, 1300
energy deposition, 1301
energy efficiency, 313, 1687
energy expenditure, 502
energy intake, 1374
energy level, 1323
energy metabolism, 591
energy partitioning, 604
energy protein, 1625
energy source, 1567
energy status, 880
engagement, 769
enhanced-feeding, 1173
ensiling, 1583, 1699
ensiling time, 1087, 1695
enteric methane, 227
enteric methane emission, 225, 646, 982
enteroendocrine cells, 201
enterosorbents, 300
environment, 700, 1511, 1515, 1731
environment concerns, 397
environmental impact, 1510
environmental mastitis, 29
enzyme, 218, 652, 741, 1303, 1581, 1582,
1584, 1614, 1632
EPD, 1042
epidemiology, 875
epidermal growth factor receptor, 373
epigenetic, 66, 74, 76, 108, 358
epigenetic regulation, 742
epithelium, 212, 1674
EPS, 996
EPS biosynthesis, 332
equine, 281, 282, 283, 384, 391, 764,
794, 893, 1199, 1202, 1203, 1207,
1210

ergot alkaloid, 1793, 1828
 ergovaline absorption, 1793
 ERK1/2, 1411
Escherichia coli, 1055, 1148, 1339, 1517
 essential amino acid, 410, 411, 418
 essential oil, 474, 595, 1175, 1254, 1603, 1720
 estradiol-17 β , 1193
 estradoublesynch, 521, 1371, 1372
 estrous activity, 530
 estrous synchronization, 292, 1043
 estrus, 1211, 1214, 1217, 1418, 1421
 estrus activity, 562
 estrus detection, 344, 1422, 1491
 estrus synchronization, 539, 540, 1900
 ET, 546
 ETEC F4, 748
 ethanol, 1094
 ethanol byproduct, 1878
 ethics, 18, 102
 eugenol, 204
 evaluation, 292, 455, 946, 1554, 1794, 1799
 ewe, 40, 985, 1449, 1542, 1837, 1841, 1918, 1931, 1935
 ewe lambs, 1921
 excretion, 1518
 exercise, 63, 391, 1198
 exogenous enzyme, 1613
 exopolysaccharides, 253, 263
 exotic, 180
 experience, 3
 experiential learning, 1961
 extension, 771, 1041
 extension tool, 1048
 extraction methods, 1282
 extruded, 906
 extruded flaxseed, 1014
 extruded linseed, 1821
 extruded soybean meal, 1605
 extrusion, 261, 978, 1897

F

F1 Kiko $\times$ Boer, 732
 fabrication, 763
 facial hair whorls, 792
 factors, 553
 faculty, 4
 fall-grown oat, 1110
 familiarity, 1949
 fans, 887
 farm profit, 571
 fasciola, 828

fat, 14, 250, 682, 691, 1835, 1852, 1954
 fat accumulation, 1378
 fat concentration, 616
 fat replacer, 13
 fat supplementation, 636, 638, 1718
 fat-soluble vitamin administration, 1297
 fat-soluble vitamins, 1662, 1890
 fatty acid, 520, 639, 927, 990, 1022, 1106, 1706, 1712, 1725, 1929
 fatty acid composition, 1247
 fatty acid concentration, 604
 fatty acid profile, 323, 340, 989, 1502
 fatty acid synthase, 1231
 fatty acids ratio, 1669
 Fc fusion protein, 1172
 FCM, 1715
 FDA, 1053
 fear, 51
 fecal, 1612
 fecal egg counts, 925
 fecal excretion, 1796
 fecal NIRS, 711
 fecal pH, 1203
 fecal starch, 593
 feces, 341, 1521
 federal milk marketing orders, 556
 feed, 450, 751, 1317
 feed additive, 1603, 1835
 feed additives, 1335, 1600, 1734, 1738, 1762, 1766
 feed analysis, 1616
 feed and food safety, 1056
 feed conversion, 1100, 1366, 1924
 feed efficiency, 30, 157, 199, 589, 724, 905, 916, 962 1564, 1588, 1834, 1877, 1895, 1934
 feed enzyme, 907
 feed industry, 102
 feed ingredient, 741
 feed ingredients, 1308
 feed intake, 367, 570, 605, 711, 795, 1936
 feed presentation, 804
 feed processing, 1366
 feed restriction, 407, 853, 1820
 feed sorting, 804
 feed the future, 783
 feed to yield, 673, 674
 feed-restriction, 515
 feeder, 33, 48
 feeder cattle, 290
 feeding, 184
 feeding behavior, 33, 53, 56, 142, 230, 3357, 803, 818, 1368, 1587

feeding duration, 986
 feeding frequency, 1183
 feeding management, 26
 feeding management software, 1160, 1475
 feeding rate, 1653, 1654
 feedlot, 39, 335, 568, 592, 593, 649, 683, 860, 898, 908, 909, 913, 914, 988, 1274, 1457, 1464, 1575, 1642, 1668, 1672, 1675, 1681, 1720, 1734, 1738, 1762, 1766, 1802, 1810, 1891, 1934
 feedlot and carcass performance, 903
 feedlot cattle, 600, 692, 722
 feedlot heifers, 1735
 feedlot performance, 595, 1489, 1848
 feedlot sheep, 1645
 feedstuffs, 1311, 1312, 1313
 feedlot-performance, 1893
 feline, 180, 184, 192, 1446
 feline diabetes mellitus, 975
 femal goats, 1903
 female, 1910, 1935
 fermentation, 198, 1078, 1090, 1599, 1628, 1723, 1773, 1778
 fermentation quality, 1091
 fermented, 1001, 1002, 1003
 fermented cotton seed meal, 1359
 fermented milk, 263, 1025
 fermenter, 1765
 fertility, 337, 524, 526, 529, 534, 896, 928, 934, 1214, 1217, 1400, 1426, 1792, 1851, 1921
 fescue, 318, 728, 829
 fescue toxicosis, 968, 1793
 fetal growth, 1169, 1197
 fetal programming, 859, 918, 1168
 fetal sex, 1496
 fetus, 833
 FGF21, 1388
 fiber, 255, 304, 467, 752, 1109, 1117, 1560, 1602, 1603, 1616, 1618, 1671
 fiber fermentation, 471
 fiber stratification, 1866
 fiber type, 419, 428
 fibrolytic, 1526
 fibrolytic enzyme, 1086, 1564, 1580, 1585, 1673
 filtration, 235, 1504
 finishing, 1668
 finishing cattle, 1565
 finishing diet, 1564
 finishing performance, 138
 finishing pig, 746, 753, 757, 758
 finishing bulls, 1255

first ovulation, 923
 fish, 79
 fish meal, 465
 fish oil, 1165, 1167, 1262, 1263
 fixed-time AI, 1418, 1421
 flaked corn, 1692
 flavonoids, 1063, 1740
 flavor, 1008, 1023, 1129, 1130, 1131, 1264
 flaxseed, 635, 1640, 1897
 flaxseed oil, 1289
 flipped, 768
 flow cytometry, 331
 fluctuation, 1737, 1795
 fly avoidance, 800
 foetal programming, 1856
 follicle, 1446, 1845
 follicular ablation, 392
 follicular fluid, 1212
 food additive, 1053
 food byproducts, 1353
 food certification, 1066
 food choice, 229
 food rewards, 806
 food safety, 16, 295
 food security, 398, 784, 785
 food supply, 786
 food waste, 1362
 forage, 922, 1089, 1101, 1103, 1106, 1111, 1750, 1128, 1475, 1513, 1565, 1584, 1590, 1649, 1782
 forage breeding, 314
 forage cactus, 1684
 forage conservation, 1121
 forage digestibility, 706
 forage intake, 219, 1567
 forage kochia, 1620
 forage level, 1587
 forage NDF, 643, 1749
 forage pattern, 1535
 forage quality, 321
 forage sorghum, 1071
 forage source, 611, 1621, 1824
 forage yield and quality, 1113
 forestomach, 1641
 fourwing saltbrush, 1128
 free fatty acids, 1034, 1925
 free radicals, 274
 free stall design, 796
 free stalls, 19
 freezability, 1908
 fresh cows, 99, 605, 1158
 Fresh Cut Plus, 1107
 fresh milk, 1028

frozen semen, 896
 fructo-oligosaccharides, 971
 fructose, 1814
 FSH, 1404
 FTIR, 331
 functional food, 242
 functional polymorphism, 929
 functional protein, 251
 functionality, 23, 253, 255, 275, 1130
 funding, 1
 fungal α -amylase, 1816
 fusion, 889
 future of horse sector, 282

G

G. lamblia, 90
 G protein-coupled receptor, 1408
 gain, 1648
 gallbladders, 88
 gamification, 768
 gas chromatography-mass, 1026
 gas emission, 1466, 1467
 gas emission reduction, 1123
 gas production, 471, 651, 710, 1122, 1218, 1521, 1600, 1629, 1630, 1632, 1633, 1644
 gastrointestinal tract, 626
 gastrointestinal, 665
 gel, 250
 gelatin, 978
 gelation, 270, 1018
 gellan, 273
 gene, 1816
 gene diversity, 179
 gene expression, 343, 371, 404, 496, 776, 903, 994, 1154, 1224, 1225, 1236, 1292, 1335, 1607, 1637, 1674, 1832, 1844, 1937, 1944
 gene networks, 597, 1823
 gene profiling, 834
 genetic diversity, 1784
 genetic evaluation, 166
 genetic merit for fertility, 1402
 genetic parameters, 932
 genetic selection, 949, 961
 genetic trends, 937
 genetic variation, 314
 genetically-engineered, 68
 genetics, 118, 737, 892, 895
 genome sequencing, 332
 genome wide association, 973
 genome wide association study, 947
 genome wide genotyping-by-sequencing, 947
 genome-wide association study, 952
 genomes, 1005
 genomic, 30, 154, 627, 961
 genomic breeding values, 167
 genomic evaluation, 152
 genomic prediction, 929
 genomic selection, 164, 165, 166, 168, 173, 939, 944, 952
 genomic selection models, 167
 genotype, 748
 genotyping, 851
 geriatric, 243
 gestating sows, 453
 gestation, 1161, 1197, 1576
 gestation age, 1169
 gestation feeding, 408
 gestation sows, 744
 gestational nutrition, 918
 gilts, 1947, 1963
 Girolando, 1845
 GIS, 1905
 gizzard, 1367
 Glen Broderick, 695, 699
 global population, 784
 glucagon like peptide, 2, 200, 201
 GLUCAN, 1917
 glucocorticoid programming, 394
 gluconeogenesis, 742, 1432
 glucose, 361, 418, 406, 1867, 1869
 glucose first-pass uptake, 1170
 glucose precursors, 99
 glucose tolerance test, 606
 glutamate, 462, 1555
 glutamine, 462
 glutathione, 1290
 glycemic index, 181
 glycerin, 591, 1689, 1457, 1701, 1675, 1591
 glycerol, 417, 1270, 1272, 1514, 1515, 1676, 1677, 1690, 1711, 1839, 1914, 1925
 GMO, 68
 GnRH, 531, 1406, 1413, 1415, 1455
 GnRH agonist, 542
 goat, 15, 91, 724, 737, 828, 840, 1106, 1233, 1461, 1482, 1646, 1860, 1866, 1899, 1905, 1912, 1915
 goat buck, 1382
 goat kid, 1909
 goat mammary gland epithelial cells, 1231
 goat milk, 989, 1022

goat milk fatty acids, 1904
 goat systems, 1219
 global warming, 739
 Gompertz approach, 1938
 gonadotropin stimulation, 1452
 GPS, 1905
 graduate degrees, 5
 grain, 467
 grain processing, 593, 1680, 1693
 granulosa cells, 1390, 1408, 1451
 grape seed and grape marc meal extract, 836
 grape seeds, 1445
 grass, 547
 grass silage, 1822
 grass-legume mixtures, 1102
 grassfed beef, 1511
 gravid uterus, 1161
 gravity separation, 265
 grazing, 315, 321, 403, 574, 1072, 1128
 grazing beef steers, 1102
 grazing bulls, 1638, 1652, 1728
 grazing cows, 1222
 grazing dairy cows, 870
 grazing Jersey cows, 1849
 grazing system, 735
 Greek-style yogurt, 245, 1133
 green microalgae, 456
 GreenFeed, 551, 1519
 greenhouse, 1514
 greenhouse gas, 356, 548, 648, 678, 701, 1520, 1763
 greenhouse gas emission, 571
 greenhouse gases, 701
 grilled, 1242
 ground corn, 1589, 1681
 ground flaxseed, 363
 group housing, 50, 357, 790
 group size, 812
 grow-finish, 755
 growing gilts, 1295
 growing performance, 1318
 growing pigs, 444, 453
 growing steers, 351
 growing-finishing pigs, 1952
 growth, 27, 220, 459, 694, 935, 983, 998, 1174, 1179, 1487, 1553, 1648, 1657, 1661, 1802, 1902, 1939, 1951, 1946, 1954
 growth and immunity, 438
 growth and performance, 913
 growth curve, 1938
 growth hormone, 1449

growth performance, 483, 485, 1176, 1295, 1306, 1309, 1323, 1324, 1327, 1328, 1332, 1333, 1338, 1344, 1345, 1350, 1358, 1467, 1565
 growth promotants, 423
 growth rate, 959, 1645
 growth traits, 920
 guidance, 1053
 guinea pig, 1248, 1249
 gut, 461
 gut development, 1168
 gut health, 64, 200, 207, 279, 483
 gut immunity, 206
 gut microbiome, 209
 gut microbiota, 206
 gut peptides, 722
 gut permeability, 1174
 GWAS, 155, 171, 931, 943, 966

H

haemagglutination potential, 1444
 hair cortisol, 802
 halothane sensitivity, 958
 hand fed, 857
 handling, 1960
 Hanwoo cattle, 1184, 1772
 haptoglobin, 70, 564
 harvest, 1075
 hatchability, 955
 hay, 1560
 hay based diet, 1812
 hay feeder, 390
 hay waste, 390, 1096
 haynet, 388
 headspace, 1629
 health, 68, 70, 278, 469, 626, 790, 898, 1456, 1808
 health benefits, 276
 health disorder, 798
 health management, 79
 health status, 567, 1800
 heart, 833
 heart rate variability, 792
 heat, 271, 305, 801
 heat abatement supplements, 1594, 1595
 heat load, 52
 heat production, 447, 1519
 heat stress, 1497
 heat stability, 1009
 heat stress, 7, 9, 43, 62, 64, 150, 158, 391, 419, 516, 535, 578, 583, 584, 586, 739, 934, 1045, 1182, 1392, 1394, 1399, 1443, 1474, 1483, 1490, 1492, 1493, 1499, 1500, 1593, 1798, 1855, 1859, 1956
 heat tolerance, 31
 heat-induced aggregation, 272
 heat-induced degradation, 269
 heat-stability, 1281
 heat-stress, 534, 950
 heatsynch, 521, 1371
 heavy metals, 1480
 hedonics, 1042
 heifer, 113, 115, 122, 694, 820, 922, 926, 1434, 1487, 1665, 1667
 heifer beef, 125
 heifer development, 134
 heifer performance, 905
 hematology, 730
 hepatic metabolism, 605
 hepatic oxidation, 230
 hepatic portal blood flow, 489
 hepatic steatosis, 1814
 herbage, 514
 herbal plants, 1781, 1907
 herds, 553
 heritability, 156
 heterofermentation, 1092
 heterogeneous fiber pool, 1866
 heterogeneous residual variance, 167
 heterosis, 23, 114, 1215
 hierarchy, 42
 high cow premix, 1160
 high moisture corn, 1078, 1588
 high pressure, 246
 high pressure processing, 257, 1034
 high protein canola meal, 451
 high concentrate, 1915
 high concentrate diet, 1621
 high forage dairy diet, 334
 high forage diet, 688
 hindgut pH, 893
 histidine, 1541, 1542, 1549
 HMTBa, 715, 1847
 Holstein, 71, 94, 152, 895, 1275, 1687
 Holstein bulls, 1743
 Holstein cow, 156, 667
 Holstein female calves, 1840
 Holstein Friesian, 674
 homocysteine, 438
 honey, 1243
 honey and broiler, 1242
 hoof care, 1503

hoop, 959
 hop, 836
 hops, 1754
 hormone, 1150, 1818, 1864
 horn fly, 136
 horse, 63, 286, 382, 383, 385, 387, 388, 389, 394, 395, 1201, 1204, 1205, 1209, 1957
 horsemate, 1067
 hot sheet, 289
 housing, 6, 8, 9, 10, 818
 5-HT receptors, 512
 human, 254
 human health, 1268
 human medicine, 811
 human requirements, 632
 hunting, 191, 976
 husbandry, 1960
 hutch, 37, 43
 hybrid bromegrass, 219
 hybrid ranking, 1076
 hydrogen, 645, 1765
 hydrogen peroxide, 1341
 hydrogen sink, 356, 548
 hydrolyzed soy protein modified, 1195
 hydrolyzed yeast, 1609
 β -hydroxybutyrate, 355, 624, 1398 1488, 1811
 5-hydroxytryptamine, 787
 5-hydroxytryptophan, 406
 hygiene, 796
 hypercalcemia, 884
 hyperketonemia, 97
 hypocalcemia, 338, 867, 870, 884, 1158
 hypomagnesemia, 870
 hypothalamus, 1419

I
 Iberian pigs, 743
 iButton, 579
 ice cream, 241, 1022
 iCEV, 765
 ICheck, 1792
 idiopathic epilepsy, 973
 IGF-1, 1420
 IGFBP-3, 414
 IgG, 1164, 1166
 IgY, 853
 IL-6, 98
 ileal digestibility, 435, 749, 1309, 1340
 ileum, 1391
 Illumina sequencing, 1873
 imitation mozzarella cheese, 1004
 immersive learning, 1962
 immortalization, 1234
 immune challenge, 75
 immune function, 1528, 1548, 1756, 1757
 immune globulin, 1862, 1892
 immune response, 8, 40, 65, 73, 86, 218, 358, 717, 1345, 1840
 immunity, 77, 96, 834, 847, 857, 1445, 1807, 1954
 immuno castrated pigs, 1938
 immuno-PCR, 1448
 immunocastration, 747
 immunoglobulin, 265, 519, 855, 854, 863, 1280, 1479, 1830, 1880
 immunology, 205, 780, 859
 immunometabolism, 505
 immunomodulation, 831, 1651
 immunostimulant, 838
 impedance, 1275
 implantation, 903
 implants, 422, 1489
 imprinting, 140
 in situ, 1551, 1628, 1878
 in situ degradability, 311
 in situ DM digestibility, 1785
 in utero heat stress, 1177
 in vitro, 254, 267, 647, 698, 1551, 1600, 1722, 1758, 1919
 in vitro digestibility, 310, 449
 in vitro fermentation, 470, 1620
 in vitro gas production, 312, 324, 1126, 1631, 1771
 in vitro incubation, 1458, 1739
 in vitro insulin sensitivity, 1436
 in vitro intestinal digestibility, 1563
 in vitro maturation, 1387, 1442
 in vitro procedure, 1540
 in vitro starch digestibility, 1697
 in vitro systems, 1629
 in vitro true digestibility of dry matter, 1631
 inbreeding, 23
 incubation, 956
 incubation duration, 1613
 iNDF, 1602, 1909
 India, 1219
 induced changes, 1239
 inductively coupled plasma-mass spectrometry, 1027
 industrialization, 1647
 industry-sponsored research, 103
 infant formulas, 1353
 infrared milk analysis, 262
 infection model, 748
 inflammation, 494, 505, 882, 1545
 inflammatory response, 464
 infrared milk analysis, 640
 ingredient composition, 1650
 ingredients, 189, 196
 inhibitor in vitro, 1550
 injectable, 1662, 1890
 injectable trace mineral, 130, 926
 injectable vitamin, 132
 injuries, 799
 innate immunity, 66, 74, 76, 92, 202, 207, 347, 864, 849, 869, 1953
 innate immunity reactants, 868
 inoculant, 309, 1080, 1092
 inositol phosphate esters, 446
 INRA 96, 281
 instruction, 764
 insulin, 62, 203, 376, 513, 516, 1223, 1394, 1671
 insulin resistance, 339, 670, 671, 1431, 1439, 1886
 insulin sensitivity, 498
 intact casein, 251
 intact males, 1910
 intake, 57, 143, 280, 594, 615, 1561, 1618, 1728, 1767, 1927
 intake and milk production, 1593
 integrity, 109
 intercropped, 1074
 interface, 273
 interferon, 487
 interleukin-1 β , 385, 889
 interleukin-6, 827
 internal environment, 1485
 internal parasite, 735
 internal parasitism, 1922
 international, 766
 internships, 3
 intervention, 60, 78
 interzone, 382
 intestinal barrier function, 64
 intestinal digestibility, 1143, 1533, 1710
 intestinal epithelial barrier function, 83
 intestinal health, 1355
 intestinal integrity, 62
 intestinal morphology, 1346
 intestine, 904, 1953
 intra-uterine growth-retarded pigs, 1950
 intragastric gelation, 329
 intramammary challenge, 175
 intramammary infection, 843, 873
 intramammary infection prevalence, 842
 intramuscular, 963
 intramuscular fat, 965

intramyocellular lipids, 422
 intrauterine position, 1169
 invasive plants, 1111
 iodine value, 420, 745
 ionized calcium, 1447
 ionophore, 1098, 1729, 1733
 iron, 1033
 isoflupredone acetate, 902
 isolation, 565
 Italian ryegrass, 1113
 Italian Simmental cows, 155
 Italian Water buffalo, 1502

J

jejunum primary cells, 861
 Jersey, 71, 94, 945, 1687
 Jersey cows, 1221
 Johne's disease, 832

K

Karoline model, 1789
 kefir, 1136
 kelp, 561
 ketone bodies concentration, 881
 ketosis, 99, 100, 355, 713, 945, 1158, 1779, 1817
 key lipogenic enzyme, 714
 kinematics, 969, 1206
 Kishki, 242
 kisspeptin, 1419
 KNDY cells, 531
 Kubelka-Munk, 1138

L

L* value, 1138
 lab-scale, 1017
 β -lactam, 1061
 α -lactamase, 1029
 lactating buffalo, 1580
 lactating dairy cows, 157, 981, 984, 1069
 lactating goat, 631, 1907
 lactating sow, 224, 1343
 lactation, 409, 414, 416, 462, 602, 775, 787, 1443, 1483, 1493, 1698, 1760, 1819, 1859, 1963
 lactation performance, 606, 611, 1597
 lactation sows, 754
 lactational performance, 1755
 lactational response, 1229
 lactic acid, 1088, 1253, 1708
 lactic acid bacteria, 1012, 1088
Lactobacillus, 1775, 1777
Lactobacillus buchneri, 1081

Lactobacillus plantarum, 1025, 1082
 lactococci, 994
 lactococcus, 244
 lactocrine programming, 106
 lactoferrin, 1033, 1226, 1280
 β -lactoglobulin, 1285
 lactose, 261, 610, 723, 1002, 1003, 1017, 1949
 lactulose/furosine, 1030
 lamb, 547, 727, 738, 900, 1259, 1617, 1636, 1670, 1706, 1867, 1893, 1923, 1929
 lamb loin, 1669
 lamb performance, 1856
 lameness, 67
 laminitis, 864
 large herd, 1495
 late pregnancy nutrition, 1856
 laying frequency, 953
 laying hen, 468, 1329, 1331, 1334, 1356, 1359, 1466
 Lc and C1 genes, 213
 LC-MS/MS, 1245
 LD panel, 155
 leafy-floury corn silage, 1070
 lean growth, 439
 learning community, 762
 legume, 1126, 1748, 1870
 legume silage, 1082, 1100, 1568
 lemongrass oil, 1722, 1723
 leptin, 518
 let down, 49
Leucaena leucocephala, 1068
 leucine, 222, 439
 LH, 527, 1404
 licking, 44
 lifetime net merit, 153
 lightness, 1261
 lignin, 1125
 limit feeding, 552
 limiting flux, 258, 259
 linoleic, 965
 linseed, 1854
 linseed oil, 979
 lipid, 891, 906, 1453
 lipid feed supplements, 1694
 lipid metabolism, 498
 lipid mobilization, 340
 lipid peroxidation, 894
 lipid synthesis, 1230
 lipogenesis, 948
 lipolysis, 1394
 lipopolysaccharide, 203, 387, 1341
 lipoprotein, 508

liposomal encapsulation, 348
 liquid, 603
 liquid feeding pigs, 218
Listeria monocytogenes, 88
 lithium chloride, 1913
 live yeast, 86, 504, 1608, 1610
 liveability, 1382
 liver, 486, 787, 841, 888, 1171, 1236, 1813
 liver and kidney parameters, 1815
 livestock, 393, 431, 785, 1213
 livestock and fisheries, 1961
 livestock economics, 1045
 livestock production, 786
 livestock research, 781
 location, 1075
 longevity, 124, 1947
 longissimus, 1266, 1268, 1269
 low fat, 13
 low quality forage, 1624
 low quality food, 807
 Low-Ca MPC, 1137
 LPA, 1411
 LPS, 76, 679
 luminosity, 1267
 luteal dynamics, 1403
 luteinizing hormone, 987
 luteolysis, 520, 1401, 1417
 lying behavior, 231, 808
 lysine, 656, 658, 659, 660, 757, 1299, 1534, 1555
 lysine requirement, 437
 lysine utilization, 224
 lysolecithin, 1843

M

machine learning, 576
Macleaya cordata, 1569
 macro- and microminerals, 1481
 macromineral, 1312, 1313
 macrophages, 1385
 Mahabadi goat kid, 1260, 1261, 1262, 1911
 Maillard, 237
 Maillard reaction, 266, 1024
 maintenance, 1899
 maintenance energy, 133
 maize, 1682
 maize offal, 756
 maize silage, 1695
 major and trace elements, 1027
 major loci, 966
 mammary epithelial cell, 1232

mammary, 347, 486, 845
 mammary apoptosis, 404
 mammary cells, 1241
 mammary epithelial cell, 366, 405, 409, 1226
 mammary gland, 410, 414, 1225, 1237, 1536, 1864
 mammary gland epithelial cell, 948
 mammary gland function, 1824
 mammary uptake, 1529
 management, 61, 573, 575, 839, 1119, 1487, 1957
 management practices, 1043
 management systems, 135
 Mangalica, 1187
 mannan, 1917
 β -mannanase, 480, 1315
 manure, 1505
 marandu, 1074, 1115
 marbling, 709, 911, 1192, 1257
 Marchigiana cattle, 931
 mare, 392, 1211, 1212
 marker effects, 177
 markers, 957
 markets, 248
 mass spectrometry, 21, 846, 1285
 MasterGraze, 1853
 mastitis, 174, 359, 412, 413, 557, 577, 779, 841, 844, 872, 874, 880, 1040, 1041, 1059, 1145, 1148, 1409
 mastitis pathogens, 85
 material bioconversion natural complex, 1358
 maternal nutrition, 128, 1168
 maturation, 1274
 maturity height, 897
 MCMC, 169
 MCP-1, 1375
 meal pattern, 1608
 meat, 13, 1243, 1255, 1256, 1267, 1901
 meat goat, 726
 meat production, 402
 meat quality, 485, 835, 1244, 1252, 1253, 1254, 1261, 1269, 1270, 1271, 1272, 1322, 1333, 1666
 meat science, 763
 meat tenderness, 965
 mechanistic model, 1789
 medium-chain triglyceride, 1196
 MegaFerm fiber, 710
 megalac-E, 1836
 melatonin, 489, 885, 1437
 meloxicam, 809
 membrane processing, 260
 membranes, 234
 mesenchymal stem cells, 384, 1189
 mesophilic cultures, 31
 meta-analysis, 146, 544, 555, 638, 720, 745, 1066, 1156, 1730, 1801
 metabolic control of intake, 669
 metabolic disease, 394
 metabolic disorders, 1663, 1664
 metabolic efficiency, 775
 metabolic fuels, 230
 metabolic model, 601, 602
 metabolic profiling, 1157
 metabolism, 280, 503, 504, 514, 515, 779, 848, 1173, 1190, 1296, 1320, 1336, 1446, 1622, 1752, 1787
 metabolites, 1427
 metabolizable energy, 141, 751, 972, 1301
 metabolizable protein, 342, 350, 659, 1549
 metabolome, 977, 1963
 metabolomics, 21, 510, 671, 975, 578
 metabolomics, bioinformatics, 713
 metabolomics, systems biology, 100
 metagenome, 243
 metagenomics, 1527
 metaphylaxis, 82, 137
 methane, 226, 345, 363, 547, 549, 551, 643, 645, 647, 682, 701, 980, 1505, 1747, 1749, 1751, 1764, 1765, 1768, 1770, 1885, 1871
 methane emission, 550, 644, 1524, 1789, 1887
 methanogen, 362, 1750
 methanogenesis, 650, 1458
 methanol, 1689
 methemoglobin, 1732
 methionine, 461, 663, 1302, 1453, 1528, 1537, 1539, 1546, 1552, 1554, 1555, 1832
 methionyl-methionine, 1227
 method performance, 262
 methodologies, 750
 methylation, 74, 963
 metritis, 59, 883
 MFGM proteins, 511
 micellar casein concentrate, 1009, 1135
 micellar casein concentrate, 257
 microbiota, 277
 microalgae, 703, 1706
 microalgal biomass, 468
 microarray, 1186
 microbes, 724
 microbial community, 675, 1884, 1885
 microbial contamination, 1216
 microbial efficiency, 1837
 microbial fermentation extracts, 664
 microbial populations, 1746
 microbial protein synthesis, 708
 microbiology, 1031, 1726, 1962
 microbiome, 202, 626, 628, 681, 718, 1238, 1240, 1705
 microbiota, 280, 1187
 microencapsulation, 484
 microfiltration, 258, 259, 1018, 1287
 microflora, 244
 microRNA, 979, 1028, 1201, 1229
 milk, 203, 209, 239, 299, 330, 432, 865, 872, 1021, 1058, 1134, 1238, 1240, 1405, 1611, 1838, 1852
 milk calcium, 405
 milk balancer, 336
 milk coagulation, 1020
 milk components, 359
 milk composition, 631, 879, 1020, 1504, 1649, 1724, 1797, 1820
 milk concentrates, 326
 milk energy, 1835
 milk fat, 353, 636, 639, 714, 981, 984, 1146, 1231, 1685, 1718, 1863
 milk fat and protein concentration, 640
 milk fat content, 610
 milk fat depression, 715, 716, 776, 1230, 1719, 1821, 1843, 1854, 1855
 milk fat globule, 279
 milk fat synthesis, 634, 642, 1544, 1716, 1827, 1829
 milk fatty acid, 1719
 milk fatty acids, 635, 1069, 1887
 milk fatty acids composition, 1694
 milk feeding, 619
 milk fever, 868
 milk intake, 1942
 milk loss, 1497
 milk markets, 12
 milk performance, 1543, 1590
 milk production, 129, 176, 248, 367, 574, 584, 656, 1149, 1490, 1496, 1561, 1606, 1688, 1826
 milk production and composition, 1781
 milk protein, 418, 657, 658, 1131, 1278, 1287
 milk protein concentrate, 245, 258, 275, 327, 1135
 milk protein concentrate and functionality, 268, 349
 milk protein precursor, 665

- milk protein synthesis, 410, 411, 417, 1538
 milk quality, 264, 556, 874, 875, 957, 1216, 1279, 1456
 milk replacer, 613, 614, 616, 617, 861, 1175, 1176, 1183, 1195, 1196, 1470, 1594, 1595, 1653, 1654, 1657, 1658
 milk sheep production, 733
 milk stability, 1283
 milk yield, 719, 1071, 1508, 1609, 1610, 1712, 1797, 1812, 1842, 1869
 milk yield and composition, 1580
 milk-fed calves, 1655
 milk-feeding, 1663, 1664
 milk-feeding period, 1553
 milk-whey-based-drinks, 1031
 milking frequency, 404
 mineral, 687, 726, 974, 1108, 1850, 1796, 1867
 mineral profile, 1830
 mineral supplementation, 75
 mini-silo, 1084
 MIP, 1099
 miRNA, 202, 565, 951
 Missouri, 116
 mitigation, 1763
 mitochondria, 687, 1895
 mitochondrial membrane potential, 1387
 mitosis, 1736, 1790
 mix time, 457
 mixed cereal silage, 1775
 mixed grazing, 728
 mixed models, 1801
 mob stocking, 320
 mobile app, 286
 mobility, 147, 569
 models, 249, 982
 moisture, 1107
 molasses, 706
 molecular evolution, 179
 molecular markers, 949
 molecular spectral bands, 1635
 molecular spectral features, 1291
 molecular weight, 1010
 molybdenum, 730
 Mombaca, 1127
 monensin, 1098, 1626, 1660, 1703, 1720, 1752, 1753, 1778
 monitoring, 1507
 moose, 1526
 moral reasoning, 109
 morphology, 1643
 mortality, 70, 1940
 mortality compost, 1482
 mortality rate, 1495
 motility, 1641
 mouse, 1396
 movement, 815
 MPC, 1137
 MRI, 254
 mRNA expression, 1821
 mRNA translation regulation, 411
 mtDNA, 1378, 1439
 mtDNA copy number, 1435
 mTOR, 25, 1151, 1538, 1544
 mTOR pathway, 1188
 mucus, 204
 multi-trait, 946
 multiple breeds, 944
 multiple component drench, 712
 multiplexing, 1448
 multivariate analysis, 578
 multivariate heavy-tailed distributions, 169
 multivitamin-mineral supplement, 1182
 MUN, 354
 murine, 1237
 muscle, 429, 1198
 muscle growth, 598
 muscle satellite cells, 1181
 mycobacterial diseases, 832
 mycotoxin, 846, 1370, 1838
 myoblasts, 889
 myosin heavy chain, 374, 427, 1245
 myostatin, 1172, 1188
- ## N
- 15N, 1592
 15N enrichment, 1788
 N fertilization, 1110
 N partitioning, 1592
 N use efficiency, 1592
 n-3, 1014, 1212
 n-3 fatty acid, 353, 827
 nanofiltration, 260
 narasin, 755
 native shrubs, 1122
 natural, 566, 1501
 natural service, 134, 528
 NCAPG, 962
 NDF, 1579, 1603
 NDF digestibility, 705
 NDF digestion, 1623
 NDF levels, 1680
 NDFd, 1084, 1623
 NEB, 491
 necrotic enteritis, 951
 needs assessment, 398
 neem, 1932
 NEFA, 1925
 negative energy balance, 1398
 Nellore, 429, 1185, 1416, 1667, 1680, 1704, 1736, 1737, 1741, 1790, 1795, 1858
 Nellore cattle, 1191, 1250, 1848
 Nelore, 933, 1678, 1679
 neonatal pig, 439
 neonate, 106, 863
 net energy, 750, 1295, 1303
 neutral detergent fiber, 882
 neutrophil, 361, 731
 neutrophils, 368, 837
 newborn, 1662
 niacin, 753, 1376, 1384, 1822
 nicotinamide, 1803, 1805
 nicotinic acid, 753, 1440
 Nili-Ravi buffalo, 173
 nipple-bottles, 1470
 NIRS, 1108
 nitrate, 1730
 nitrogen, 220, 700, 983, 1513, 1562, 1622
 nitrogen excretion, 1547
 nitrogen metabolism, 654
 nitrogen nutrition, 1535
 nitrogen retention, 222
 nitrogen use efficiency, 657
 nitrogen utilization, 646
 3-nitrooxypropanol, 226
 nitrous oxide reductase, 1520
 non-conventional feedstuff, 756
 non-linear, 141
 non-traditional, 190
 nonesterified fatty acids, 1488
 nonstarter lactic acid bacteria, 1132
 nonthermal processing, 257
 norgestomet, 1380
 noxious gas emission, 1509
 NRC Software, 369
 NSAID, 339, 494, 1152, 1377
 NSLAB, 1005
 nubian, 828
 nuclear receptor, 642, 1716
 nursery, 1299, 1319
 nursery pig, 759, 886
 nursery pig performance, 1354
 nursery piglets, 1300
 nutraceuticals, 279
 nutrient, 93
 nutrient composition, 1111
 nutrient content, 1604

nutrient digestibility, 710, 1165, 1324,
 1329, 1330, 1331, 1338, 1630, 1780
 Nutrient flux, 1813
 nutrient intake, 403, 1574, 1642, 1950
 nutrient loss, 1486
 nutrient transport, 199
 nutrient transporter gene expression, 472,
 1321
 nutrigenomics, 596, 597, 642, 774, 776,
 777, 1538, 1544, 1716, 1827
 nutrition, 102, 107, 115, 117, 188, 123,
 207, 395, 396, 469, 500, 596, 695,
 780, 919, 1545, 1819
 nutrition in ovo, 1357
 nutritional immunology, 206
 nutritional science, 778
 nutritional security, 784
 nutritional value, 782, 1121
 nutritive value, 1710

O

oats, 370, 1764
 obesity, 975, 1187
 ochratoxin A, 1057
 ocular temperature, 72
 odd and branched chain fatty acids, 634,
 1026, 1761
 odor, 901
 offspring, 1557
 offspring mammary development, 408
 oil, 1272
 oil source, 1727
 oilseed, 228, 519, 906, 987
 oleic acid, 743
 oligopeptide transporter 1, 666
 oligosaccharides, 261
 omasal flow, 1721
 omasal sampling, 1601
 omega-3, 463, 464, 1293, 1717, 1726,
 1808
 omega-3 fatty acid, 468, 1897
 omics, 778
 OmniGen AF, 1483
 OmniGen-AF, 73, 91, 503, 834, 847,
 1456
 on-farm testing, 1476
 online multimedia, 765
 online tools, 293
 oocyte quality, 536
 operant conditioning, 806
 opinion, 819
 opportunities, 195
 organic, 95, 323, 560, 588, 1051

organic dairy cows, 635
 organic production, 561
 organic trace mineral, 389
 organoleptic characteristics, 239
 orts, 1642
 oscillating protein, 342
 out of season, 1921
 outdoor pork production, 791
 outwintering, 588
 ovarian dynamics, 1428
 ovarian follicle, 1372
 over-expression, 1228
 over-processed milk, 1030
 overconditioned, 670
 overstocking, 8, 19
 overwintering, 227
 oviduct, 890
 ovsynch, 524
 ovulation, 1211, 1372
 ovulation synchronization, 523, 538
 oxidation, 186, 1021
 oxidative status, 1376
 oxidative stress, 208, 894, 928, 1012,
 1378, 1379, 1423, 1424, 1439, 1846,
 1947

P

P excretion, 1617
 pain mitigation, 809
 pain response, 59
 Pakistan, 920
 palatability, 912, 1351
 palm oil, 1692, 1713, 1825, 1833, 1886
 palmitic acid, 636, 1715, 1717
 panicum maximum, 1120
 panting, 582, 583
 paper sludge, 1773
 papillae, 1736, 1790
 parasite, 860, 1912
 parasite infection, 1919
 parasite resistance, 732, 1915
 parasitic intestinal nematodes, 925
 parlor, 49
 particle size, 612, 758, 1646, 1686, 1693
 parturition, 101, 533, 816
 passive immunity, 854, 855
 passive transfer, 69, 1144
 pasteurized, 336
 pasture, 313, 322, 323, 363, 673, 702,
 917, 1072, 1119, 1573, 1626, 1648,
 1677, 1678, 1839, 1871
 pasture management, 735
 pathogen counts, 29
 pathogenic and spoilage bacteria, 302,
 333
 pathogens, 16, 1064
 payback, 390
 pearl millet, 1097
 peccary, 1246
 pectin, 466
 pedigree depth, 168
Pediococcus pentosaceus, 1082
 pedometers, 815
 PEG, 1889
 Pelibuey sheep, 1933
 pellet, 988, 590
 pelleting, 215
 pen-shade, 822
Penicillium mycotoxins, 831
 peptide metabolism, 696
 peptide-bound amino acids, 665
 peptides, 1285
 peptideYY, 201
 performance, 48, 133, 454, 463, 474, 476,
 481, 608, 692, 725, 802, 805, 813,
 817, 1162, 1194, 1263, 1326, 1343,
 1369, 1478, 1577, 1594, 1650, 1655,
 1656, 1675, 1728, 1762, 1769, 1776,
 1800, 1850, 1932, 1942
 performance and carcass yield, 1670
 performance and digestibility, 1636
 performance of calves, 1660
Perilla frutescens, 650
 periparturient, 668
 periparturient ewes, 1429
 periparturient period, 92
 peripheral blood mononuclear cells, 340
 permeate, 1352
 peroxisome proliferator-activated recep-
 tor gamma, 1230
 pet care, 195
 pet food, 186, 188, 192, 196, 978
 PGF, 1413, 1417
 PGF2a, 1900
 pH, 309, 326, 1073, 1248, 1286
 pH dynamics, 893
Phaffia rhodozyma, 1509
 phagocytic efficiency, 731
 pharmaceuticals, 1958
 pharmacogenomics, 78
 PhD, 2
 phenetic classification, 954
 phenols, 452
 phenotype, 77
 phospholipids, 1129
 phosphorus, 351, 478, 685, 1046, 1047,
 1294, 1310, 1361, 1516, 1518

photoperiod, 6, 405, 1945, 1232
 physico-chemical, 1242
 physiology, 961
 phytase, 446, 476, 761, 1320, 1321, 1336, 1617
 phytate, 761
 phytate phosphorus, 446
 phytochemical, 204
 phytogenic feed additive, 1769
 phytonutrients, 1343, 1603
 pig, 47, 80, 88, 178, 205, 220, 419, 437, 440, 443, 448, 451, 457, 460, 465, 470, 472, 473, 474, 478, 480, 516, 741, 749, 750, 755, 761, 891, 958, 983, 1171, 1172, 1180, 1289, 1294, 1298, 1299, 1303, 1307, 1308, 1315, 1316, 1317, 1319, 1321, 1348, 1349, 1352, 1361, 1362, 1364, 1368, 1392, 1419, 1507, 1943, 1953
 pig trophoblast, 1411
 piglet, 475, 481, 1365, 1940, 1941, 1942, 1946, 1951
 piglet growth, 1360
 piglets, 81, 436, 438, 1304, 1339, 1355
 pirlimycin, 1523
 pistachios hulls, 1743, 1744, 1745, 1780
 placenta, 393, 493, 876, 1389, 1410
 plane of nutrition, 1597
 plant compound, 366
 plant extracts, 205, 1250, 1656, 1848
 plant maturity, 897
 planting date, 1118
 planting density, 1076
 plasma, 856
 plasma calcium and anti-oxidative stress, 1903
 plasma metabolites, 1868
 plasma metabolome, 970
 plasma protein, 617
 plasma urea nitrogen, 322
 plasma vitamin concentration, 1297
 plasmin, 270, 1024
 plicometer, 1259
 policy, 825
 polled, 22
 polled genetics, 20
 polymelia, 895
 polymorphism, 178, 950
 polyphenol oxidase, 1761
 polyunsaturated FA, 715
 poor maternal nutrition, 1181
 population, 402
 porcine embryo, 1937
 porcine LH, 1455
 porcine skeletal muscle, 1245
 pork, 180, 421
 pork quality, 420, 745
 post-extraction algal residue, 1705
 post-weaned calves, 1194
 postabsorptive metabolism, 1392
 postpartum, 669, 725, 876, 1714
 postpartum ovulation, 392
 postruminal infusion, 1814
 potassium, 247
 potassium carbonate, 1829
 potatoes, 1476, 1477
 powder, 995
 PPAR, 1251, 1827
 PPAR γ , 840
 PPAR γ , 948
 PR-39, 83
 pre-calving diet, 720
 pre-calving intake, 156
 pre-treatment, 1029
 precision dairy farming technologies, 1049, 1491
 precision processing, 1563
 Précoat, 1702
 prediction, 57, 1516
 prednisolone, 412
 preference, 52, 229, 1949
 pregnancy, 107, 490, 509, 1159, 1437, 1454, 1469
 pregnancy associated glycoprotein, 1405
 pregnancy diagnosis, 1405
 pregnancy loss, 1403
 pregnancy per AI, 1380, 1401
 pregnancy rate, 1425
 pregnancy rates, 542
 pregnancy success, 1421
 premium, 288
 prenatal stress, 525, 527
 preovulatory estradiol, 546
 prepartum, 987
 prepartum behavior, 56
 prepartum supplementation, 127
 presynch-ovsynch, 1494
 prevalence, 1205
 prilled fat, 1714
 primary culture, 1180
 proactive advising, 762
 probiotic, 80, 89, 243, 276, 277, 482, 810, 878, 879, 1316, 1327, 1339, 1342, 1651, 1741, 1757, 1756, 1759, 1771
 probiotic bacteria, 331 238
 processed cheese, 251, 252, 989
 processing, 234, 235, 275, 1039
 producer perception, 1049
 producers and workers, 287
 production, 734, 1115, 1604, 1792, 1874
 production and metabolism, 672
 production cost, 40, 1465
 production course, 767
 production disease, 554
 production response, 638
 production system, 1480, 1481
 productive parameters, 1639
 productivity, 575
 proficiency testng, 262
 profit, 914, 1191
 profitability, 291, 573
 progesterone, 529, 541, 544, 545, 1401, 1403, 1425, 1437, 1438, 1918
 progestins, 536
 programming, 108
 proinflammatory, 845
 prolactin, 407, 413, 850, 950
 prolactin receptor, 172
 prolamin, 1696
 proliferation, 415, 1189
 propionate, 1150, 1676, 1742
 propionibacterium, 1770
 propolis, 1660, 1840
 propylene glycol, 712, 1499
 prostaglandin, 1406, 1918
 prostaglandin F2 α , 1377
 protease, 1583, 1614
 protection, 921
 protein, 187, 234, 235, 250, 693, 698, 702, 752, 782, 1033, 1101, 1351, 1547, 1624, 1625, 1750, 1852, 1870, 1898
 protein availability and utilization, 1634
 protein bar, 1135
 protein concentration, 616, 1653, 1654
 protein conformation, 1634
 protein denaturation, 1286
 protein evaluation system, 1831
 protein fermentation, 1355
 protein kinase B, 1390
 protein metabolic characteristics, 1114, 1831
 protein metabolism, 1638
 protein molecular structures, 1114
 protein nutrition, 354, 700, 1141
 protein source, 1522, 1543, 1644, 1845, 1865
 protein supplement, 334, 1311, 1473
 protein supplementation, 517, 1572
 protein synthesis, 376, 1293
 protein tyrosine nitration, 844
 proteolysis, 696

proteomics, 409, 1582
 protozoa, 1721, 1744, 1782
 puberty, 113, 396, 923
 puerperal-metritis, 95
 PUFA, 1715, 1717, 1833, 1886
 pulsed light, 302, 333
 pulses, 1404
 pure flavonoids, 1458, 1739
 purine derivatives, 1562
 pyrophosphates, 252
 pyrosequencing, 1783

Q

quail, 953, 955
 quail eggs, 956
 qualitative, 1040
 quality, 112, 431, 911, 912, 1104, 1235, 1256, 1273, 1647, 1901
 quality assurance, 111
 quercetin, 1170
 queso fresco, 997

R

rabbit, 312, 454, 506
 rabbit does, 1310
 ractopamine, 46, 145, 599
 ractopamine hydrochloride, 146, 1952
 radio-transmitter, 579
Radix bupleuri, 1659
 rainy season, 1679
 range, 313
 rangelands, 1429
 rapamycin, 25, 788, 1188
 rapeseed products, 442
 rare earth-chitosan chelate, 1815
 rat, 1177
 ration formulation, 1874
 RatLoft, 416
 raw milk, 295, 1029, 1061, 1162, 1279
 raw milk cheeses, 16
 rbST, 555, 923
 reactive oxygen species, 274, 894
 real-time PCR, 1223
 real-time polymerase chain reaction, 842
 rearing system, 743, 793
 reasons, 764
 recombinant bovine somatotropin, 374, 848
 reconstituted, 995
 reconstituted milk, 1030
 recruitment, 4
 rectal temperature, 72, 580
 Red Angus, 133, 142

Red Sokoto goats, 303
 reduced CP, 1247
 reduced-fat, 1006
 reduced-fat distillers grains with solubles, 345
 reduced sodium, 246
 refractometer, 69, 1144, 1479
 region, 943
 regulation, 105
 regulatory immune responses, 1454
 reliability, 154
 rendered protein meal, 186
 rendering, 189
 rennet coagulation, 327, 511
 repeatability, 1628
 replacement beef heifer, 116
 replacement effect, 1570, 1574
 replacement heifers, 938
 reproduction, 115, 130, 294, 500, 517, 531, 537, 563, 919, 926, 949, 1214, 1217, 1468, 1473, 1875
 reproductive economic performance, 293
 reproductive efficiency, 738
 reproductive failure, 774
 reproductive management, 576
 reproductive performance, 744
 reproductive traits, 932
 requirements, 707, 1306, 1542
 research ethics, 109
 research integrity, 110
 reserve compound, 1116
 residual body weight gain, 823
 residual feed intake, 51, 142, 346, 375, 472, 473, 502, 823, 915, 917, 1163, 1368, 1895
 resistance, 925, 1922
 resistant starch, 185, 970
 respiration rate, 1500
 respiratory rate, 822, 826
 respirometry, 648
 response, 58
 response surface, 1306
 resting stop, 41
 restricted diets, 1665
 restricted feeding, 1461
 restriction, 93
 resynchronization, 524, 530
 retained placenta, 869, 1894
 retention, 121
 reticular sampling, 1601
 retinoic acid, 507, 1192
 retinoids, 343
 retinol-binding protein, 1154
 reuse, 434

reversed phase high performance liquid chromatography, 1278
 review strategies, 770
 RFI, 149, 892, 1186
 rheology, 245, 325, 996, 1133
 rib eye area, 1684
 rice bran extract, 1356
 RID, 1164
 rigor mortis, 1248
 risk factors, 867
 risk management, 291
 risk warning, 1062
 RNA, 481
 RNA-seq, 214, 964, 1888
 RNA-sequencing, 1854
 robot, 58
 robust linear mixed model, 169
 rolled barley, 1708
 roots, 1116
 ROS and GSH, 1442
 Rostock fermentation test, 1073
 rotational grazing, 1038, 1095
 rumen, 362, 371, 501, 603, 675, 696, 724, 1147, 1432, 1570, 1598, 1643, 1674, 1685, 1703, 1724, 1725, 1847
 rumen ammonia nitrogen, 1926
 rumen bacteria, 662, 1788
 rumen degradability, 1143
 rumen degradation, 1533
 rumen degradation and intestinal digestion kinetics, 215
 rumen development, 370, 372, 619, 1923
 rumen digestion, 1775, 1777
 rumen epithelium, 1783
 rumen fermentation, 650, 1727, 1758
 rumen fluid, 1697
 rumen gases, 1916
 rumen health, 1697
 rumen kinetics, 1581, 1586
 rumen microbes, 1727
 rumen microbiome, 214, 630, 1527
 rumen microbiota, 677, 1860, 1873
 rumen papillae, 1888
 rumen pH, 1540
 rumen pressure, 1641
 rumen protected choline, 1797
 rumen protected lysine, 657
 rumen protection, 1896
 rumen starch degradability, 1695
 rumen temperature, 580
 rumen-pH, 1637
 rumen-protected, 1546, 1554
 rumen-protected amino acid, 1151, 1386, 1530

rumen-protected choline, 881
 rumen-protected histidine, 350
 rumen-protected lysine, 655, 1531, 1540
 rumen-protected methionine, 350
 rumen-undegradable protein, 1551
 rumen-undegraded protein, 1550
 ruminal, 921
 ruminal evacuation, 1801
 ruminal fermentation, 1102, 1740, 1748, 1766
 ruminal methanogenesis, 627
 ruminal microbes, 716
 ruminal microbial protein, 611
 ruminal parameters, 667
 ruminal pH, 612, 1568, 1646, 1676, 1767
 ruminal temperature, 1397
 ruminant, 35, 65, 548, 678, 1515, 1634, 1702, 1730, 1731
 ruminant nutrition, 993, 1802
 rumination, 560, 1608, 1826, 1833
 rump fat, 1204
 RUP, 658
 rural development, 283
 rusitec, 1723
 RVA, 1286, 1287
 rye, 444
 ryegrass-clover pastures, 1108

S

S. aureus, 366
S. thermophilus, 332
Saccharomyces, 1179
 safflower meal, 1670
 Sahiwal bull, 522
 saikosaponin, 1746
 salicornia, 1337
 saline water, 1525
 saliva production, 1566
Salmonella, 482, 810, 1342
Salmonella inhibitors, 1334
Salmonella typhimurium, 83
 salt, 252, 999, 1000, 1310
 salt and pH, 1132
 salt-tolerant plants, 1525
 saltwater crocodile, 1340
 sample processing, 1477
 sampling, 1084
 sampling location, 428
 sand freestall barn, 557
 sanguinarine, 1569
 sanitation, 436, 440, 1304
 SARA, 718
 Sarda pig breed, 1939

satellite cell, 373, 383, 1193, 1276
 saturated and monounsaturated fatty acids, 947
 SCC, 91, 1468
 SCD, 1251
 SCFA, 1190, 1926
 scientist, 2
 scraping frequency, 29
 scrotal temperature, 579
 seasonality, 1908
 selection, 118, 1943
 selection index, 153
 selenium, 690, 871, 1221, 1316, 1837, 1841, 1937, 1944
 semen, 131, 522
 semi-extensive farming, 1219
 semiarid regions, 1122, 1218
 semimembranosus, 1264, 1265
 sempre-verde, 1127
 sensory, 1134
 sensory additive, 1593, 1857
 sequence analysis, 1607
 sequencing, 1884
 sequential grazing, 728
 sequestering agents, 1838
Sericea lespedeza, 730
 serotonin, 416, 460, 1142
 serotonin receptor, 1233, 1828
 SerpinA3, 375
 serum, 228, 1163
 serum hormone, 1862, 1892
 serum metabolites, 719, 879
 serum minerals, 1447
 serum protein, 36
 serum protein removal, 259
 sex, 594
 sexed semen, 125, 1418
 sexed semen economics, 1496
 sexual precocity, 1185
 SF6, 551
 shade, 581, 582, 1097
 shadow, 866
 shear force, 423, 424, 936, 1264, 1271
 sheep, 731, 737, 807, 851, 888, 1189, 1233, 1389, 1407, 1445, 1461, 1764, 1899, 1914, 1916, 1919, 1922, 1927, 1928
 sheep breeds, 960
 sheepmeat, 740
 Shewhart control chart, 1062
 shoot, 1116
 short chain fatty acids, 705
 short-chain fatty acid absorption, 1566
 Show-Me-Select, 116
 signaling pathways, 107

silage, 307, 309, 312, 324, 651, 1073, 1077, 1078, 1079, 1090, 1092, 1093, 1115, 1777
 silage bacteria, 300
 silage covering, 1048
 silage quality, 1068
 silvopastoral, 1257, 1420
 singed, 303
 single nucleotide polymorphism, 22
 single step method, 166
 single-step GBLUP, 164
 sire residual feed intake, 905
 skeletal muscle, 1950
 skim milk powder, 1035
 skin-on, 303
 slaughter, 763
 SLC34A, 1292
 sleep, 899
 slick hair coat, 172
 slow-release-NPN, 664
 small intestine, 199
 small ruminant management, 739
 small ruminant nematodes, 736
 small ruminants, 738, 842, 1913
 smallholders, 1213
 smartphone application, 1052
 SNP, 935, 939, 945, 958, 967
 SNP selection, 944, 960
 social housing, 795
 social rank, 812
 social stress, tryptophan, 460
 society, 282
 sodium, 247, 997
 sodium alginate, 1340
 sodium butyrate, 482, 810, 1923
 sodium sesquicarbonate, 1610
 soil, 1221
 solubility, 1131
 soluble carbohydrate, 708, 882
 solvent-extracted soybean meal, 1605
 somatic cell score, 1609
 somatic cells, 264, 265
 somatotropic axis, 888
 sorghum, 452, 1693, 1701, 1878
 sorghum silage, 1086
 sorting, 232, 1591, 1665, 1737, 1795
 South Korea, 825
 southeast, 1041
 sow, 50, 812, 1326
 soy hulls, 900, 1141
 soy protein concentrate, 1360
 soybean grain, 1836
 soybean hulls, 726

- soybean meal, 655, 1141, 1325, 1530, 1743
- soybean meal origin, 1360
- soybean oil, 1713, 1825, 1836
- soybean processing, 1478
- soybean products, 442
- soyhull pellets, 1589
- spatial environment, 1485
- spatialization, 432
- species, 1278
- species milk, 1026, 1027
- sperm, 890, 1210
- sperm membrane, 927
- sperm morphology, 934
- sperm storage, 281
- sperm viability, 1423, 1424
- spermatogenesis, 532
- spice, 1001
- splanchnic extraction, 1199
- split footbath, 1503
- spores, 1007, 1065
- sprinklers, 52
- sprouted barley, 1871
- SQMI, 289
- SREBP-1c, 1251
- ssGBLUP, 168, 940, 942, 952
- stability, 1063
- stabilizers, 255
- stallion, 1208
- standing behavior, 231
- Staphylococcus aureus*, 1059
- Staphylococcus chromogenes*, 175
- star anise, 1318
- starch, 256, 385, 467, 618, 723, 1015, 1149, 1363, 1598, 1612, 1672, 1682, 1698, 1752, 1759
- starch concentration, 604
- starch content, 1524
- starch degradation, 607
- starch digestibility, 304, 607, 1039, 1087, 1583, 1700
- starch digestion, 1696
- starch fermentability, 26
- starch infusion, 606
- starter, 693, 727
- steam-flaked, 1681
- steam-flaked corn, 1691
- stearic acid, 1229, 1718
- stearic fatty acid, 1666
- stearidonic acid, 353
- STEC, 1055
- steeping, 1708
- steer, 663, 801, 1186
- steroid, 488
- steroidogenesis, 532
- stocker, 290, 860
- stocker cattle, 1571
- stocker-feeder cattle, 138
- stocking density, 19, 53, 55, 793
- storage, 1153
- storage conditions, 1061
- straw, 1587
- stress, 38, 39, 42, 46, 49, 72, 101, 532, 794, 801, 814, 816, 820, 866, 916, 1174, 1434
- stress responses, 513
- stress tolerance, 314
- stressor, 794
- stride, 1209
- strip grazing, 829
- structure profile and nutrient availability, 1709
- student, 769, 773, 1960
- student performance, 762
- student training, 1
- study abroad, 1959
- sub-clinical Mastitis, 840
- subacute disease, 21
- subacute ruminal acidosis, 612, 714
- subclinical endometritis, 1412
- subclinical hypocalcemia, 1447
- subclinical ketosis, 1811
- subclinical mastitis, 852
- subcutaneous fat, 930
- submicro, 1000
- submicronization, 999
- subprimal yield, 424
- substitutive effect, 1572
- suckling piglets, 1939
- suckling pigs, 1297
- sucrose, 329, 610, 723
- sugar, 1149
- sugar beet pulp, 744
- sugar cane, 1639
- sugar reduction, 1023
- sugarcane, 1850, 1898
- sugarcane silage, 705, 1591
- sulfur, 425, 1273
- sulfur amino acids, 440
- summer heat stress, 1400
- sunflower, 631
- super-shedder, 217
- supernodal methods, 165
- supplementation, 1112
- supplement, 144, 993
- supplementation, 681, 702, 1148, 1463, 1559, 1567, 1571, 1573, 1624, 1666, 1679, 1705, 1847
- survey, 352, 734, 839, 1037, 1049, 1791, 1957
- sustainability, 189, 283, 397, 433, 1508, 1512
- sustainable, 190
- SV-40 large T-antigen, 1234
- swath grazing, 221, 587
- sweetener, 1655
- swine, 294, 408, 449, 459, 463, 464, 476, 747, 1064, 1244, 1247, 1293, 1311, 1312, 1313, 1944, 1945
- swine production, 771
- Swiss cheese, 991
- switchgrass, 1118
- syncytin, 493
- synovial, 386
- system, 87
- systems biology, 486, 500, 601, 775, 1157, 1823
- ## T
- T cells, 789
- TAI, 546
- tail paint, 44
- tail trimming, 800
- tall fescue, 1844
- tannin, 187, 452, 651, 1255, 1521, 1701, 1744, 1745, 1780, 1860, 1889, 1893
- tannins extract, 1517
- tapeworm, 1205
- Tasco, 1912
- taxonomy, 954
- TBARS, 1268, 1426
- Tbeef cattle, 1038
- TCI, 1484
- tea phenolic antioxidants, 348
- teaching, 194, 765, 770, 772, 1955
- teat dimension, 1239
- teat dip, 873
- teat disinfectant, 1145
- technique, 660
- technology, 112, 194, 335, 1015, 1491, 1575, 1891, 1956
- telomere length, 1379, 1381
- temperament, 525, 805, 821, 823
- temperament scoring, 1207
- temperature, 1482
- temperature humidity index, 583, 584
- tenderness, 177, 910, 1260, 1266
- testosterone, 1407
- Tgrain source, 1735
- Thai-native goats, 536
- thermal comfort, 585

- thermoduric bacteria, 1007
thermotolerance, 1132
THI, 1497
thiamin, 1876, 1882
thin films, 1016
threonine, 436
threshold model, 932
thrombogenic index, 990
thyme essence, 1165, 1167, 1262, 1263
thyme oil, 1916
thymol, 1768
Thynopirum ponticum, 1121
thyroid hormone, 1420, 1450
tie stall, 799, 1484
tight junction, 1232, 1391
time after ensiling, 1700
time budget, 797
timed artificial insemination, 344, 543, 1415, 1494
tissue accretion, 1177
tissue composition, 1250
TMR, 652
tolerance, 633
toll-like receptors, 174
top losses, 1083
total cost, 97
total non-structural carbohydrate, 322
total serum protein 854, 855
total tract, 1579
trace minerals, 131, 683, 689, 1459, 1462, 1463, 1469
traceability, 1066
trailer, 887
training, 1044
trans fatty acids, 1246
trans monounsaturated fatty acids, 1396
transcription factors, 507
transcription regulator network analysis, 1399
transcriptional factors, 777
transcriptome, 495
transcriptomic analysis, 217
transcriptomics, 501, 627
transfer, 871, 1430
transfer rate, 1058
transglutamination, 1024
transit kinetics, 1562
transit time, 1558
transition, 54, 577, 1155, 1596
transition cow, 55, 56, 96, 100, 343, 339, 491, 501, 670, 671, 672, 713, 798, 848, 880, 824, 1154, 1399, 1528, 1832
transition dairy cows, 869
transition goats, 729
transition period, 505, 554, 656, 1142, 1393, 1395, 1402, 1527, 1545, 1894
transition success, 1484
translucency, 1138
transport, 41, 212, 223, 820
transportation, 1434
transwell, 666
transition cow, 780, 858
treated corn stover, 608
treated stover, 590
trenbolone acetate, 373
tributyrin, 484
trichothecene, 1314
triglycerides, 80
tropical environment, 1638
tropical feed, 1794
tropical grass, 1119, 1627
tropical pasture, 1123, 1691, 1692, 1713, 1825
tropical region, 1074
trot, 969, 1206
troubleshooting, 294
tryptophan, 1304
tuberculosis, 832, 865
tubers, 449
turkey poults, 1369
turmeric, 506
turnover rate, 1495
twin screw cooker, 1004
twinning, 135
two-dimensional electrophoresis maps, 1282
tympanic temperature, 585
- ## U
- ubiquitin-proteasome system, 1386
udder health, 176
UHT milk, 270
UHT skim milk, 1210
ultra performance liquid chromatography-tandem mass spectrometry, 1522, 1523
ultrafiltration membrane, 268, 349
ultrasonography, 34
ultrasound, 148, 1204, 1449
ultraviolet, 1032
ultraviolet radiation, 506
umbilical cord, 862
umbilical dip, 862
undergraduate, 193, 1955
undergraduate education, 772
undergraduate research, 1962
undergraduate students, 1961
undergraduate teaching, 771
university, 4
upcoming, 233
UPLC-MS/MS, 846
urea, 1639, 1928
urease inhibitor, 1599
urinary urea, 354
urine spot samples, 1532
USAID, 781, 783
UterFlush, 95
uterine blood flow, 490
uterine capacity, 1943
uterine involution, 491
uterus, 533
UV milk filter, 1504
- ## V
- vaccination, 518
vaginal temperature, 581
validate, 1144
value chain, 781, 1220
value-added, 11
variability, 1510
variable rate, 674
variation, 66
vascularity, 1389, 1410
veal, 1684
vegetable protein, 187
VEGF, 1375
veterinary, 773
veterinary drug residues, 1062
VFA transporter, 1844
Vietnam, 1220
virginiamycin, 649, 1626
visceral pain, 59
viscosity, 326, 1315
vitamin A palmitate, 1032
vitamin B12, 1876, 1882, 1883
vitamin C, 425, 1444
vitamin D, 347, 426, 849
vitamin E, 1474
vitamin retention, 182
vitamin stability, 182
vitreousness, 1696
volatile fatty acid, 603, 645, 1746
volatile organic compounds, 1081, 1080
- ## W
- wallaby, 1246
warm-season grass, 1098
wash time, 746
waste management, 397
water, 430, 431, 433

water buffalo, 644, 1724
 water buffalo mammary gland, 415
 water consumption, 1507
 water footprint, 432
 water holding capacity, 1249
 water intake, 434
 water quality, 1630
 weaned beef calves, 1471
 weaned calves, 808
 weaning, 24, 129, 624, 677, 691, 797, 1661, 1940, 1941, 1945
 weaning piglet, 484, 1342
 weaning weight, 1300, 1301
 weanling pig, 483, 756, 1325, 1330, 1338, 1358
 weight, 129
 weight gain, 1112, 1243, 1572, 1927
 weighted SNP, 940
 Weimaraner, 969
 welfare, 18, 39, 41, 45, 514, 791, 819, 1152
 wet distillers grains, 704
 wheat, 443, 758, 1354
 wheat co-product, 477
 wheat distillers grain, 1673
 wheat dried distillers grains with solubles, 1606, 1688

whey, 565, 1028, 1129
 whey bleaching, 1130
 whey protein, 271, 272, 273, 278, 328, 1282
 whey protein isolate, 266
 white-tailed deer, 1218
 whole corn, 1367
 whole corn diet, 1577
 whole grains, 974
 whole milk, 861
 whole raw milk, 1480, 1481
 whole-farm simulation model, 571
 wildlife, 191
 wilting, 1068
 winter grazing, 221, 587
 WNT, 1451
 wool, 740, 1556
 worldwide survey, 1370
 WP-DX Glycates., 267
 writing, 767

X

X-ray, 992
 Xinong Saanen goats, 1908
 XKR4, 968
 XP, 654

xylanase, 477, 1585

Y

yearling beef heifers, 1413
 yeast, 89, 96, 426, 672, 1094, 1773, 1951, 1917, 1932
 yeast cell wall, 1460
 yeast culture, 858, 1077, 1090, 1755, 1760
 yield, 1109, 1647
 yield carcass, 1277
 yogurt, 12, 256, 263, 325, 995, 996, 1137
 yolk, 1302, 1305

Z

zearalenone, 1057
 α -zearalenol, 1057
 zebu, 594, 930, 1266, 1269, 1672, 1810
 Zebu cattle, 1729, 1733
 zeolites, 1644
 zilpaterol, 46, 149, 910, 1667
 zilpaterol chlorhydrate, 1344, 1929, 1933
 zilpaterol hydrochloride, 146, 147, 148, 150, 151, 422, 426, 427, 559, 684, 815
 zinc, 475, 689, 759, 1952
 zinc methionine, 427