

# Subject Index

## ASAS Midwestern Section Abstracts

Please note: Numbers following author's name indicate abstract numbers.

- A**  
Acceptance, 60  
Acid Base Equilibrium, 250, 283  
Acute Phase Proteins, 298  
Acute Phase Responses and Piglet Diarrhoea, 102  
Aerobic Stability, 68  
Air Classification, 136, 138  
Amino Acids, 53, 55, 56, 144, 164  
Analgesic, 2  
Angle of Repose, 166  
Angus, 60, 61  
Animal Performance, 278  
Antibiotics, 74, 150, 181, 182, 208  
Antioxidants, 201  
Apparent Ileal Amino Acid Digestibility, 189  
Arabinogalactan, 181  
Artificial Insemination, 21, 23  
Astaxanthin, 182
- B**  
*Bacillus*, 207  
Back Fat, 89  
Backgrounding Cattle, 239  
Barrow, 76  
Beef, 100, 121, 125, 127, 248, 249  
Beef Calves, 238, 252  
Beef Cattle, 34, 50, 104, 223, 239, 251, 258, 269, 288, 295  
Beef Cows, 231, 245, 253, 265  
Beef Heifers, 245, 256  
Beef Palatability, 111  
Behavior, 3, 6, 7, 10, 11, 14  
Benzoic Acid, 204, 205  
Beta-Agonist, 120  
Bioavailability, 172  
Biocurtain, 215  
Bioefficacy, 52  
Bioelectric Impedance, 126  
Birth Weight, 78, 112, 117, 118, 232  
Blood Metabolites, 278  
Boar, 26  
Boar Production, 119  
Boars, 24  
Body Temperature, 223  
Bone Quality, 92  
Bovine, 279  
Breeding Value, 49  
Broilers, 172  
Brown Mid-Rib, 288  
 $\gamma$ -Butyrobetaine, 179
- C**  
Calves, 108, 267  
Candidate Genes, 85  
Canola, 186  
Carbohydrate, 94  
Carcass, 100, 205  
Carcass Composition, 70  
Carcass Quality, 43, 83  
Carnitine Concentrations, 179  
Cartilage, 99  
Cat, 53  
Cattle, 40, 48, 59, 212, 240, 255, 283  
Cereal NSP, 217  
Cereal Preference, 193  
Certified, 60, 61  
Chemical Composition, 124  
Chitooligosaccharide, 148  
Chlortetracycline, 123  
Circovirus, 38  
CLA, 71  
Coconut Oil, 163  
Colicin E1, 6, 147  
Colostrum, 298  
Competition Effects, 103  
Composition, 126  
Compost, 212  
Computer Tomography, 43  
Conceptus Elongation, 233  
Condensed Corn Solubles, 296  
Conjugated Dienes, 125  
Conjugated Linoleic Acid, 248, 249  
Consumers, 73  
Copper, 285  
Copper Supplementation, 80  
Copa Meal, 152  
Corn, 135, 144  
Corn Distillers Meal, 165  
Corn Price, 63  
Corn Processing, 97  
Corn Silage, 69  
Corn Silage Hybrids, 67  
Creep, 108  
Creep Feed, 170, 198  
Creep Feeding, 197  
Crop Residue, 288  
Crowding Stress, 4  
Crude Protein, 284  
Cryptorchidism, 85  
Cysteine, 52
- D**  
DDGS, 88, 158, 159, 160, 166, 173, 195, 303, 304  
DDGS Withdrawal, 161  
Defects, 18  
Desired Gain, 28  
Development, 101  
Dextrose, 188  
Diet, 211  
Diet Digestibility, 140  
Dietary Fat, 70  
Digestibility, 97, 136, 165, 173, 174, 264, 277  
Digestible Energy, 105, 133, 186  
Digestible Reactive Lys, 164  
Digestion, 86  
Disease Resistance, 41  
Distillers Dried Grains, 156, 162, 163, 243, 265, 266  
Distillers Dried Grains With Solubles, 154, 157, 164  
Distillers Dried Grains With Solubles (DDGS), 153  
Distiller's Grains, 93, 97, 111, 121, 127, 252, 257, 259, 263, 264, 287, 290  
Distillers Solubles, 82  
Diversity, 40  
Dried Distiller's Grains, 262, 268, 277  
Dried Distillers Grains With Solubles, 155, 247  
Drinking, 14  
Dry Lot, 281  
Dry-Cured Ham, 27  
Dry-Rolled Corn, 287  
Dry-Substrate, 57
- E**  
Early Pregnancy, 297  
Early-Weaning, 129  
Economic Analysis, 304  
Efficiency, 50, 199  
Egg Yolk Antibodies, 102  
Eicosapentaenoic Acid, 99  
Electrolyte, 302  
Electronic Identification, 59  
Energy, 130  
Energy Digestibility, 131  
Energy Intake, 167, 168  
Energy System, 194  
Enos, 81  
Ensilage, 57  
Environment, 8  
Enzymes, 150  
Ergotamine-D Tartrate, 293  
Estrus, 87, 235  
Ethanol Byproducts, 267  
Euthanasia, 15  
Excretion, 211  
Exercise, 92  
Expander, 156  
Expression, 44  
Extrusion, 303
- F**  
Fababeans, 138  
Fall Calves, 266  
False Discovery Rate, 37  
Farrowing, 234  
Fasting, 113  
Fat, 73, 237  
Fat Quality, 159  
Fat Supplementation, 86  
Fatty Acid Composition, 248  
Fatty Acids, 71, 116, 127, 160, 187  
Fatty Acids Profile, 72  
Fecal Malodor Gas Emission, 176  
Feed Efficiency, 43, 48, 254  
Feed Form, 5  
Feed Intake, 7  
Feed Management, 170, 197, 198  
Feeder Design, 170  
Feeder Space, 5  
Feeding, 75  
Feedlot, 286, 290  
Feedlot and Carcass Performance, 62  
Feedlot Cattle, 109, 254, 257  
Feet and Leg Soundness, 30  
Fermentation, 69, 96  
Fermented Soy Protein, 189, 190  
Fertility, 26  
Fertilizer, 268  
Fescue Toxicosis, 293  
Fetal Programming, 232  
Fetus, 234  
Field Peas, 184, 185  
Finishing, 58, 244  
Finishing Cattle, 82  
Finishing Performance, 269  
Finishing Pigs, 155, 184, 187  
Finishing Steers, 120  
Finishing System, 266  
Fish Meal, 191  
Flaked Corn, 257  
Flaxseed, 134  
Flaxseed Meal, 84, 213  
Flowability, 166  
Follicle, 224  
Follicle Number, 231  
Forage, 243, 268  
Forages, 267
- G**  
Gene Expression, 123, 279  
Genetic Correlation, 31  
Genetic Parameter, 116  
Genetic Variation, 39  
Genetics, 40, 295  
Genistein, 226  
Genomic Selection, 35  
Genotype, 124  
Ghrelin, 240  
Gilt, 168  
Gilts, 29, 92  
Glycemic Index, 193  
Glycerin, 280  
Glycerol, 108, 141, 142  
Goat, 7  
Grading, 128  
Grain Adaptation, 109  
Grazing, 241, 260, 282  
Grazing Behavior, 251  
Group Size, 171  
Growing, 58  
Growing Calves, 261  
Growing Finishing Pig, 175  
Growing Pigs, 171  
Growing Steers, 264, 282  
Growth, 38, 45, 54, 88, 103, 112, 123, 130, 199, 302  
Growth Factor, 220  
Growth Factors, 297  
Growth Performance, 70, 119, 152, 175, 176, 183

- H**  
 Hair Coat, 295  
 Handling, 17  
 Hay, 292  
 Health, 62, 114, 258, 289  
 Heifers, 242, 280  
 Heritability, 29, 32  
 Hernia, 85  
 Horses, 292  
 Housing, 83  
 Hydrogen Sulfide, 64  
 Hyperspectral Imaging, 128
- I**  
*Ibacillus Subtilis*, 177  
 IGF, 226  
 IGF Binding Proteins, 226  
 IGFBP2, 45  
 Ileal Amino Acid Digestibility, 191  
 Immune Response, 148  
 Immunity, 39  
 Implants, 120  
 Imprinting, 44  
 Inoculant, 68  
 Inorganic, 183  
 Insulin, 196  
 Intake, 243, 256  
 Intermediate Filaments, 122  
 Iodine Value, 135, 159  
 IVDMD, 296
- K**  
 Kyphosis, 32
- L**  
 Lactating Ewe, 247  
 Lactating Sows, 79  
 Lactation, 195, 197, 256  
 Lactobacilli, 217  
 Lactose, 94, 142, 149, 188  
 Lamb, 126, 237, 246  
 Lambs, 86, 290  
 Lameness, 1, 2  
 L-Arginine, 169  
 Latent Class, 1  
 L-Carnitine, 179  
 Lean Gain, 76  
 LH, 87  
 Lifetime Production, 168  
 Limit-Feeding, 282  
 Lipid Content, 72  
 Litter Size, 117, 118  
 Low-Quality Forage, 296  
 LPS, 148  
 Lung Adesions, 62  
 Lysine, 91, 146, 180  
 Lysine Deficient, 175
- M**  
 Management, 222  
 Manure, 207, 214  
 Marbling, 89, 121, 242, 259  
 Mass Balance, 210  
 Maternal Effects, 34  
 Maternal Nutrition, 300  
 MC4R, 113  
 Meat and Bone Meal, 98  
 Meat Quality, 116  
 Medium Concentrate Diets, 252  
 Metabolizable Energy, 98  
 Methionine, 52, 143  
 Microarray, 36, 113  
 Microarray Analysis, 37  
 Milk Production, 222  
 Milk Protein, 137  
 Milling, 185  
 Millrun, 151  
 Mixed Effects Model, 77  
 Modified Wet Distillers Grains, 269  
 Mortality, 10, 19, 201, 289  
 Multiple Testing, 37  
 Multivariate Factor Analysis, 27  
 Muscle, 300  
 Myogenesis, 299
- N**  
 Native Range, 251  
 Natural, 244  
 Negative Energy Balance, 240  
 Net Energy, 194  
 Net Portal Absorption, 202  
 Nitrate, 107  
 Nitrogen, 212, 283, 284, 292  
 Nitrogen Balance, 189  
 Nitrogen Excretion, 206  
 Non-Ambulatory, 16  
 Nonlinear Growth Functions, 77  
 Non-Starch Polysaccharides Hydrolysis Products, 102  
 NSP, 96, 206  
 Nursery, 149  
 Nursery Pig, 94  
 Nursery Pigs, 142  
 Nutrient Composition, 263  
 Nutrient Digestibility, 190, 192, 246  
 Nutrient Intake, 291  
 Nutrient Transport, 220  
 Nutrients, 210  
 Nutrition, 75, 294  
 Nutritional Value, 139  
 Nutritive Value, 69
- O**  
 Oat Groats, 139  
 Oilseed Supplementation, 253  
 Omega-3 FA, 134  
 Omega-3 Fatty Acid, 84  
 Omega-3-Fatty Acid, 196  
 Oocyte Maturation, 293  
 Optaflexx, 254  
 Organic Acid, 204  
 Ovary, 225  
 Ovine Placenta, 291  
 Ovulation, 224  
 Oxidation, 125
- P**  
 Palm Oil, 162  
 Particle Size, 185, 303  
 Pasture, 244  
 Paylean®, 146  
 PCV2, 20, 38  
 PCVAD, 39  
 PCVD, 20  
 Peas, 105, 133  
 Pelleting, 141  
 Pellets, 155  
 Performance, 104, 153, 167, 177, 192, 259  
 Pgs, 157  
 Ph, 250  
 Ph, Digestibility, 178  
 Phase Feeding, 284  
 Phosphorus, 209, 241  
 Phosphorus Phytase, 213  
 Phytase, 151, 209  
 Pig Growth, 77, 124  
 Pig Mannanase, 152  
 Piglet, 6, 10  
 Piglet Processing, 13  
 Piglets, 298  
 Pigs, 3, 5, 8, 9, 11, 14, 15, 16, 17, 18, 22, 30, 31, 32, 36, 44, 55, 78, 84, 88, 91, 96, 112, 117, 130, 131, 132, 133, 136, 137, 139, 140, 141, 143, 145, 146, 147, 150, 151, 153, 156, 158, 160, 161, 162, 163, 169, 173, 177, 180, 181, 182, 186, 193, 194, 198, 202, 203, 204, 205, 206, 209, 210, 211, 213, 215, 217, 232, 233, 235  
 Pine Cone Meal, 187  
 Placenta, 81, 234  
 Placental Efficiency, 220  
 Plant Protein Source, 192  
 Porcine, 99, 299  
 Pork, 72  
 Pork Fat Quality, 158  
 Pork Quality, 45, 76, 118, 157, 161  
 Post Weaning Diarrhea, 147  
 Preconditioning, 238  
 Prediction Equations, 79  
 Preference, 143  
 Pregnancy, 294  
 Probiotic Complex, 176  
 Production System, 63  
 Profitability, 67  
 Progesterone, 87, 224  
 Proliferation Rate, 291  
 Protein, 53, 145  
 Protein Supplementation, 245  
 Proximate Fractions, 98  
 Pulmonary Arterial Pressure, 34
- Q**  
 Quality Evaluation, 27
- R**  
 Ractopamine, 145, 180  
 Radio Frequency Identification, 59  
 Random Regression, 33  
 Rate of Gain, 58  
 Rates, 89  
 Rbst, 222  
 Regulatory Science, 56  
 Reproduction, 4, 21, 23, 200, 235  
 Residual Feed Intake, 49, 50, 278  
 Resistance, 74, 208  
 Retail Display, 129  
 Rice, 114  
 Roughage, 262, 277  
 Rumen, 64  
 Rumen Metabolism, 237  
 Rumen Temperature, 255  
 Ruminants, 250
- S**  
 Safety, 56  
 Salmonella, 41  
 Scan, 12  
 Selected Forage, 241  
 Selection, 67  
 Selection Index, 28  
 Selenium, 300  
 Semen, 24  
 Sensory, 249  
 Sensory Quality, 119  
 SH, 304  
 Sheep, 81, 107, 225  
 Shelf Life, 111  
 Silage, 68  
 Sildenafil Citrate, 225  
 Simmental Cattle, 33  
 Simulation, 28  
 Small Intestine, 279  
 SNP, 30  
 Snps, 41  
 Sorghum, 135  
 Sow, 1, 12, 167, 195, 199, 200, 201  
 Sow Removal, 2  
 Sows, 105, 196  
 Soy Hulls, 174  
 Soybean Hulls, 132, 140, 247  
 Sperm, 26  
 Sperm Technologies, 22  
 Spermatogenesis, 24  
 Spline, 33  
 Starch, 242  
 Stayability, 231  
 Steam-Flaked Corn, 262, 280, 287  
 Steers, 63, 281, 286  
 Stocking Rate, 260  
 Stockpiled Forage, 265  
 Stress, 3  
 Structural Soundness, 29  
 Sugarbeets, 57  
 Sulfate Reducing Bacteria, 64  
 Supplement, 101  
 Supplementation, 261  
 Swine, 4, 13, 19, 21, 23, 54, 74, 75, 103, 134, 144, 149, 165, 174, 207, 214, 289  
 Swine Manure, 208  
 Synemin, 122  
 System, 101
- T**  
 Talin, 122  
 Tall Fescue, 286  
 Tannins, 214  
 Temperament, 31  
 Temperature, 258  
 Temperature Stress, 83  
 Tenderness, 128  
 Timed AI, 253  
 Total Suspended Particles, 215  
 Trace Minerals, 200, 203, 239, 285  
 Trailer Design, 9  
 Transcription Factor, 71  
 Transition Piglets, 302  
 Transport, 8, 18  
 Transport Conditions, 9  
 Transport Losses, 16  
 Transportation, 17, 19  
 Tri-County, 61

Tryptophan, 91  
Tympanic Temperature, 223

## U

Ultrasound, 104  
Uterine Capacity, 36, 233  
Uterine Insemination, 22  
Uterus, 297

## V

Vaccine, 20  
Validation, 11, 12  
Valine, 54  
Variation, 107, 263  
Vevovitall, 178  
Vitamin A, 100, 129  
Vitamin Level, 171

## W

Water Intake, 255  
Weaned Pigs, 80, 114, 138, 190  
Weaning, 203, 238  
Weaning Growing Pig, 178  
Weaning Pigs, 183, 191  
Weanling Pigs, 154  
Weight, 79  
Well-Being, 13

Wet Corn Gluten Feed, 109  
Wet Distillers Grains, 82, 260, 261  
Wheat, 131  
Wheat Middlings, 132  
Whey, 188  
Wintering System, 281  
Wool, 294

## Z

Zinc, 172, 202, 285  
Zinc Oxide, 80