# Matthew Allan Oryschak

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## Education

### 2021-present Ph.D. Animal Science (poultry nutrition)

Department of Agricultural, Food and Nutritional Sciences
University of Alberta; Edmonton, AB, Canada.

**Thesis title (proposed)**: 'Expanding opportunities for faba bean (*Vicia faba*) as a feedstuff in Canadian poultry diets' (Supervisor: Dr. Doug Korver)

### 1998 - 2002 M.Sc. Animal Science (non-ruminant nutrition)

Department of Animal & Poultry Science / Prairie Swine Centre Inc.
University of Saskatchewan; Saskatoon, SK, Canada.

**Thesis title:** 'Particle Size and Enzymes to Reduce Nutrient Excretion in Growing Pigs' (Supervisor: Dr. Ruurd T. Zijlstra)

### 1994 – 1998 B.Sc. (Agricultural Sciences) with honours

Faculty of Agricultural Sciences (now Land and Food Systems)
University of British Columbia; Vancouver, BC, Canada.

# Employment history

2021

## Graduate Teaching Assistant – ANSC 260

Department of Agricultural, Food and Nutritional Sciences
University of Alberta (Edmonton, AB)

Supported the Course Instructor in the lab section of the Animal Science 260 course by assisting students with lab assignments in lab sessions and grading assignments.

2008 – 2020

## Research Associate – Monogastric Feeds

Alberta Agriculture and Forestry (Edmonton, AB)

Provided support to the Research Scientist - Monogastric Feeds in all aspects of our research program, with involvement in all activities spanning the entire continuum of the research project lifecycle - from grant application to final report.

2007 – 2008

## Biosecurity Program Coordinator

Poultry Research Centre/University of Alberta (Edmonton, AB)

Organized and lead 2 industry-focused biosecurity workshops, produced 'The Commercial Poultry Producer's Guide to Biosecurity' publication, and strengthened/formalized biosecurity standards at the University of Alberta poultry research unit.

2003 – 2007

## Environmental Program Specialist

Alberta Agriculture and Rural Development (Edmonton, AB)

Supported the Environmental Farm Plan program, participated in extension activities around sustainable manure management, and led the development of landmark Alberta Nutrient Management Planning Guide.

2001 – 2003

## Livestock Production Instructor

Fairview College (now Grande Prairie Regional College; Fairview, AB)

Re-developed and taught 3 post-secondary level courses per term (2 terms per academic year) to a total of 90+ students. Course topics included: livestock and equine nutrition, general animal science, animal handling and restraint, husbandry procedures, livestock reproduction, livestock facility design and basic computer science.

# Professional memberships & relevant service

Professional Member, Poultry Science Association (2009 - present).

Reviewer, Nutrition and Metabolism Section for peer-reviewed publications of the Poultry Science Association (Poultry Science and the Journal of Applied Poultry Research). Fourteen (14) submissions reviewed since 2012.

Student Representative, Faculty of ALES (U of A) Safety Committee (2021-present).

Member, Poultry Science Association Subcommittee on Environmental Quality and Sustainability (2017-2020).

Ex-Officio Member/Facilities Committee, Poultry Research Centre (2017-18).

# Community involvement

Volunteer, Classroom Agriculture Program. Twelve (12) presentations given to Grade 4 classes in the Edmonton area over the past 15 years.

Volunteer interviewer, for the Faculty of Agriculture, Life and Environmental Sciences (University of Alberta) Veterinary Mock Mini Interviews since 2015.

Volunteer, Society of St. Vincent de Paul (Edmonton). Assist with delivering donated household goods to clients in need in the Edmonton area since 2020. Also served on the Grants Committee in 2015 to prepare grant applications on the organization's behalf to charitable foundations to support its work in support of Edmonton's poor and vulnerable.

Executive committee member, Knights of Columbus Council #7599. Served in several council leadership positions since 2012, including council president (2018-2020). [*N.B. The Knights of Columbus is the world's largest Catholic fraternal organization with over 2 million members and pursues charitable activities in alignment with its core principles of fraternity, unity, charity, and patriotism. Council #7599 is the largest council in the Alberta jurisdiction with nearly 500 members and provides nearly 2500 hrs of community service per year.*]

# Awards, recognition and scholarships

2022 Alberta Graduate Excellence Scholarship. Department of Agricultural, Food and Nutritional; University of Alberta (Edmonton, AB, Canada). Awarded to a select group of graduate students across all departments at the University of Alberta based on high academic standing (Award value: $12,000)

2022 Thermo Fisher Scientific Graduate Scholarship. Department of Agricultural, Food and Nutritional; University of Alberta (Edmonton, AB, Canada). Awarded to a graduate student in the Department of AFNS based on high academic standing (Award value: $2,500)

2021 Golden Key International Honor Society. Membership into Golden Key is by invitation only and applies to the top 15% of graduate students in all fields of study, based solely on their academic achievements.

2021 Friends of the Faculty of Graduate Studies and Research Scholarship. Faculty of Graduate Studies and Research; University of Alberta (Edmonton, AB, Canada). Awarded on the basis of academic merit and achievement. (Award value: $1,500)

2021 Syngenta Graduate Scholarship in Sustainable Agriculture. Faculty of Agricultural, Life and Environmental Sciences; University of Alberta (Edmonton, AB, Canada). Awarded to individual in second year of a PhD program conducting research pertaining to sustainable agriculture based on high academic standing (Award value: $8,200)

1999 Dollie Hantelman Agricultural Graduate Scholarship. College of Agriculture, University of Saskatchewan (Saskatoon, SK, Canada). Awarded to a graduate student in the college of Agriculture based on superior academic standing in coursework. (Award value: $19,000)

1998 Academic All-Canadian (Men's Rugby). University of British Columbia (Vancouver, B.C., Canada). Awarded to varsity athletes who maintain an 80% average while taking a full-time course load. (Certificate)

1998 Dean Blythe Eagles Medal. Faculty of Agricultural Sciences, University of British Columbia (Vancouver, B.C., Canada). Awarded to the student in the graduating year in the Faculty of Agricultural Sciences who has best been able to combine good academic standing with outstanding contributions in student or community affairs. (Medal/certificate awarded at graduation)

1997 Brian Kesteven de Peyster Chance Memorial Scholarship in Animal Science. Faculty of Agricultural Sciences, University of British Columbia (Vancouver, B.C., Canada). Awarded to outstanding 3rd or 4th year Animal Science student based on academic achievement and community involvement. (Award value: $1100)

1994 Outstanding Student Initiative Entrance Award. University of British Columbia (Vancouver, B.C., Canada). Awarded to students placing in the top 10% of those entering each faculty out of secondary school. (Award value: $2200)

# Evidence of productivity

## PEER-REVIEWED PUBLICATIONS

Inglis, G.D., B.D. Wright, S.A. Sheppard, D.W. Abbott, **M.A. Oryschak**, and T. Montina. 2021. Expeller-pressed canola (*Brassica napus*) meal modulates the structure and function of the cecal microbiota, and alters the metabolome of the pancreas, liver, and breast muscle of broiler chickens. Animals 11:577. https://doi.org/10.3390/ani11020577

**M.A. Oryschak** and E. Beltranena. 2020. Reconsidering the contribution of conventional poultry production to anthropogenic greenhouse gas emissions: Returning to an integrated crop-poultry production system paradigm. Poultry Science 99(8): 3777-3783. https://doi.org/10.1016/j.psj.2020.05.004

**M.A. Oryschak**, C.B. Christianson, and E. Beltranena. 2020. *Camelina sativa* cake for broiler chickens: Effects of increasing dietary inclusion, on clinical signs of toxicity, feed disappearance, and nutrient digestibility. Translational Animal Science 4(2): txaa029. https://doi.org/10.1093/tas/txaa029

**M.A. Oryschak**, M.N. Smit, and E. Beltranena. 2020. *Brassica napus* and *Brassica juncea* extruded-expelled cake and solvent-extracted meal as feedstuffs for laying hens: Lay performance, egg quality, and nutrient digestibility. Poultry Science 99(1): 350-363. https://doi.org/10.3382/ps/pez501

Bench, C.J., **M.A. Oryschak**, D.R. Korver, and E. Beltranena. 2016. Behaviour, growth performance, foot pad quality, bone density, and carcass traits of broiler chickens reared with barrier perches and fed different dietary crude protein levels. Canadian Journal of Animal Science 97(2): 268-280. https://doi.org/10.1139/cjas-2015-0202

Bench, C.J., **M.A. Oryschak**, and D.R. Korver. 2016. Oxidized subbituminous coal water additive has no adverse effect on growth performance or water consumption of growing broilers. Canadian Journal of Animal Science 96(4): 466-470. https://doi.org/10.1139/cjas-2015-0172

Nain, S., **M.A. Oryschak**, M. Betti, and E. Beltranena. 2015. *Camelina sativa* cake for broilers: Effects of increasing dietary inclusion from 0 to 24% on tissue fatty acid proportions at 14, 28, and 42 d of age. Poultry science 94(6): 1247-1258. https://doi.org/10.3382/ps/pev080

Zhou, X., **M.A. Oryschak**, R.T. Zijlstra, E. Beltranena. 2013. Effects of feeding high-and low-fibre fractions of air-classified, solvent-extracted canola meal on diet nutrient digestibility and growth performance of weaned pigs. Animal Feed Science and Technology 179: 112-120. https://doi.org/10.1016/j.anifeedsci.2012.12.002

**Oryschak, M.A.**, D.R. Korver, M. Zuidhof, X. Meng, E. Beltranena. 2010. Comparative feeding value of extruded and non extruded wheat and corn distillers dried grains with solubles for broilers. Poultry Science 89(10): 2183-2196. https://doi.org/10.3382/ps.2010-00758

**Oryschak, M.A.**, D.R. Korver, M. Zuidhof, E. Beltranena. 2010. Nutritive value of single-screw extruded and nonextruded triticale distillers dried grains with solubles, with and without an enzyme complex for broilers. Poultry Science 89(7): 1411-1423. https://doi.org/10.3382/ps.2009-00619

**Oryschak, M.A.**, R.T. Zijlstra. 2002. Effect of dietary particle size and nutrient supply on energy digestibility and nitrogen excretion in ileal cannulated grower pigs. Canadian Journal of Animal Science 82(4): 603-606. https://doi.org/10.4141/A02-017

**Oryschak, M.A.**, P.H Simmins, R.T. Zijlstra. 2002. Effect of dietary particle size and carbohydrase and/or phytase supplementation on nitrogen and phosphorus excretion of grower pigs. Canadian Journal of Animal Science, 82(4): 533-540. https://doi.org/10.4141/A02-016

# SCIENTIFIC PRESENTATIONS & POSTERS

## A. Invited oral presentations (* denotes presenting author)

**Matt Oryschak*** and Eduardo Beltranena. 2020. The effect of partial replacement of limestone with gypsum in layer diets on hen productivity, egg quality, ammonia emissions and ammonia emission intensity of egg production. Poultry Science Association Annual General Meeting (July 20–22, 2020; Virtual). Poultry Science 99 (E-suppl. 1): Abstract #198.

**Matt Oryschak*** and Eduardo Beltranena. 2020. The effect of increasing digestible crude protein content in wheat-based hen diets on hen productivity, egg quality and ammonia emission intensity of egg production. Poultry Science Association Annual General Meeting (July 20–22, 2020; Virtual). Poultry Science 99 (E-suppl. 1): Abstract #199.

**Matt Oryschak*** and Eduardo Beltranena. 2013. Evaluation of Camelina sativa meal as a feedstuff for layers: Effects of increasing dietary inclusion and copper supplementation on egg production and physical egg quality. Poultry Science Association Annual General Meeting (July 22 – 25, 2013; San Diego, CA). Poultry Science 92 (E-suppl. 1): Abstract #227.

**Matt Oryschak*** and Eduardo Beltranena. 2013. Solvent-extracted vs. expeller-pressed *B. napus* and *B. juncea* fed to layers: effects on feed intake, egg production and physical egg quality. Poultry Science Association Annual General Meeting (July 22 – 25, 2013; San Diego, CA). Poultry Science 92 (E-suppl. 1): Abstract #228.

**Matt Oryschak***, Doug Korver and Eduardo Beltranena. 2012. Nutrient digestibility in Canadian-grown pulse crops compared to soybean meal for growing broilers at 15- and 29-d of age. Poultry Science Association Annual General Meeting (July 9 – 12, 2012; Athens, GA). Poultry Science 91 (E-suppl. 1): Abstract #121.

**Matt Oryschak***, Bogdan Slominski and Eduardo Beltranena. 2012. Effect of increasing dietary inclusion of solvent-extracted *B. juncea* versus *B. napus* canola meal on broiler growth performance, carcass traits and yield of carcass components. Poultry Science Association

Annual General Meeting (July 9 – 12, 2012; Athens, GA). Poultry Science 91 (E-suppl. 1): Abstract #251.

**Matt Oryschak***, Doug Korver and Eduardo Beltranena. 2011. A comparison of nutrient digestibility in wheat distillers dried grains with solubles (DDGS) and 3 wheat DDGS fractions produced using a 2-step dry fractionation process for broilers. Poultry Science Association Annual General Meeting (July 17 – 19, 2011. St. Louis, MO). Poultry Science 90 (E-suppl. 1): Abstract #208.

**Matt Oryschak***, Doug Korver and Eduardo Beltranena. 2011. Nutrient digestibility in canola meal for broilers: Effects of oil extraction method and fractionation by air classification. Poultry Science Association Annual General Meeting (July 17 – 19, 2011. St. Louis, MO). Poultry Science 90 (E-suppl. 1): Abstract #211.

**Matt Oryschak***, Doug Korver and Eduardo Beltranena. 2011. Nutrient digestibility of 4 varieties of triticale compared to that of Canadian Prairie Spring wheat for broilers. Poultry Science Association Annual General Meeting (July 17 – 19, 2011. St. Louis, MO). Poultry Science 90 (E-suppl. 1): Abstract #212.

**Matt Oryschak***, Doug Korver, Seyed Ali Pishnamazi, and Eduardo Beltranena. 2009. Effect of graded inclusion levels of wheat, corn and triticale dried distiller's grains with solubles on growth performance and breast muscle weight in broilers. Poultry Science Association Annual General Meeting (July 20 – 23, 2009; Raleigh, NC). Poultry Science 88 (E-suppl. 1): Abstract #95.

**Matt Oryschak***, Doug Korver, Martin Zuidhof, Fernando Hernandez and Eduardo Beltranena. 2009. Single screw extrusion and enzyme supplementation improve nutrient digestibility in triticale dried distiller's grains and solubles for broilers. Poultry Science Association Annual General Meeting (July 20 – 23, 2009; Raleigh, NC). Poultry Science 88 (E-suppl. 1): Abstract #145.

**Matt Oryschak***, Doug Korver, Martin Zuidhof, Fernando Hernandez and Eduardo Beltranena. 2009. Twin screw extrusion improves nutrient digestibility in wheat and corn dried distiller's grains and solubles for broilers. Poultry Science Association Annual General Meeting (July 20 – 23, 2009; Raleigh, NC). Poultry Science 88 (E-suppl. 1): Abstract #146.

## B. Poster presentations

**Matt Oryschak**, Daniella Batres, Emmanuel Opoku-Yeboah, and Eduardo Beltranena. 2019. Faba bean as a feedstuff for broilers: Effects on growth performance, carcass traits, saleable cuts and feed-associated carbon intensity of chicken meat production. Poultry Science Association Annual General Meeting (July 15 - 18, 2019; Montréal, QC, Canada). Poultry Science 98 (E-suppl. 1): Abstract #510P.

**Matt Oryschak**, Emmanuel Opoku-Yeboah, Daniella Batres, and Eduardo Beltranena. 2019. Canola seed as a feedstuff for broilers: Effects on growth performance, carcass traits, saleable

cuts and feed-associated carbon intensity of chicken meat production. Poultry Science Association Annual General Meeting (July 15 - 18, 2019; Montréal, QC, Canada). Poultry Science 98 (E-suppl. 1): Abstract #511P.

**Matt Oryschak** and Eduardo Beltranena. 2019. Effect of high dietary inclusion of canola or camelina expeller-pressed cake or solvent-extracted meal on hen performance and egg quality. Poultry Science Association Annual General Meeting (July 15 - 18, 2019; Montréal, QC, Canada). Poultry Science 98 (E-suppl. 1): Abstract #512P.

**Matt Oryschak** and Eduardo Beltranena. 2019. Effect of high (30%) dietary inclusion of lentil and chickpea in layer diets on hen performance and egg quality. Poultry Science Association Annual General Meeting (July 15 - 18, 2019; Montréal, QC, Canada). Poultry Science 98 (E-suppl. 1): Abstract #513P.

**Matt Oryschak**, Daniella Batres, Emmanuel Opoku-Yeboah, and Eduardo Beltranena. 2019. Dietary approaches to reducing the carbon intensity of table egg production: Capping dietary carbon intensity. Poultry Science Association Annual General Meeting (July 15 - 18, 2019; Montréal, QC, Canada). Poultry Science 98 (E-suppl. 1): Abstract #514P.

**Matt Oryschak** and Eduardo Beltranena. 2019. Dietary approaches to reducing the carbon intensity of egg production: Optimization of dietary AME density and formulation objective. Poultry Science Association Annual General Meeting (July 15 - 18, 2019; Montréal, QC, Canada). Poultry Science 98 (E-suppl. 1): Abstract #515P.

**Matt Oryschak** and Eduardo Beltranena. 2019. A comparison of solvent-extracted and expeller-pressed Camelina sativa co-products as feedstuff for laying hens. Poultry Science Association Annual General Meeting (July 15 - 18, 2019; Montréal, QC, Canada). Poultry Science 98 (E-suppl. 1): Abstract #516P.

**Matt Oryschak**, Miranda Smit, and Eduardo Beltranena. 2019. Replacement of soybean meal with canola meal at two feed energy levels on production performance and egg attributes of laying hens. Poultry Science Association Annual General Meeting (July 15 - 18, 2019; Montréal, QC, Canada). Poultry Science 98 (E-suppl. 1): Abstract #517P.

**Matt Oryschak** and Eduardo Beltranena. 2019. Dietary approaches to reducing the carbon intensity of chicken meat production: Optimization of dietary AME density and formulation objective. Poultry Science Association Annual General Meeting (July 15 - 18, 2019; Montréal, QC, Canada). Poultry Science 98 (E-suppl. 1): Abstract #518P.

**Matt Oryschak** and Eduardo Beltranena. 2019. Dietary approaches to reducing the carbon intensity of chicken meat production: Capping dietary carbon intensity. Poultry Science Association Annual General Meeting (July 15 - 18, 2019; Montréal, QC, Canada). Poultry Science 98 (E-suppl. 1): Abstract #519P.

**Matt Oryschak** and Eduardo Beltranena. 2019. The effect of corrugated rollermill processing on the nutrient digestibility of full-fat camelina and flax seed fed for laying hens. Poultry Science

Association Annual General Meeting (July 15 - 18,  2019; Montréal, QC, Canada). Poultry Science 98 (E-suppl. 1): Abstract #538P.

**Matt Oryschak** and Eduardo Beltranena. 2013. Effect of increasing dietary inclusion of solvent-extracted *B. napus* or *B. juncea* meals for broilers grown to 35-d of age on nutrient mass balance and calculated nitrogen emissions. Poultry Science Association Annual General Meeting (July 22 – 25, 2013; San Diego, CA). Poultry Science 92 (E-suppl. 1): Abstract #P419.

**Matt Oryschak** and Eduardo Beltranena. 2013. Evaluation of *Camelina sativa* meal as a feedstuff for layers: Effects of increasing dietary inclusion and layer strain on feed intake, egg production and physical egg quality. Poultry Science Association Annual General Meeting. July 22 – 25, 2013. San Diego, CA. Poultry Science 92 (E-suppl. 1): Abstract #420.

**Matt Oryschak** and Eduardo Beltranena. 2013. Evaluation of *Camelina sativa* meal as a feedstuff for layers: Effects of increasing dietary inclusion, copper supplementation and layer strain on post-mortem signs of toxicity, organ weights and serology. Poultry Science Association Annual General Meeting (July 22 – 25, 2013; San Diego, CA). Poultry Science 92 (E-suppl. 1): Abstract #421.

**Matt Oryschak** and Eduardo Beltranena. 2013. A comparison of *B. napus* and *B. juncea* meals and their air-classified fractions: Growth performance, carcass traits and measured AME in growing broilers. Poultry Science Association Annual General Meeting (July 22 – 25, 2013; San Diego, CA). Poultry Science 92 (E-suppl. 1): Abstract #422.

**Matt Oryschak**, Doug Korver and Eduardo Beltranena. 2012. Nutrient digestibility in air-classified pulse protein concentrates and wet-fractionated soy protein concentrate for 15-d old broiler chicks. Poultry Science Association Annual General Meeting (July 9 – 12, 2012; Athens, GA). Poultry Science 91 (E-suppl. 1): Abstract #P402.

**Matt Oryschak**, Colleen Annett and Eduardo Beltranena. 2012. Screw-pressed Camelina sativa meal as feedstuff for broilers: Effects of graded dietary inclusion on organ weights and post-mortem signs of toxicity. Poultry Science Association Annual General Meeting (July 9 – 12, 2012; Athens, GA). Poultry Science 91 (E-suppl. 1): Abstract #P404.

**Matt Oryschak** and Eduardo Beltranena. 2012. Nutrient and energy digestibility in air-classified faba bean and field pea protein and starch concentrates in 21-day-old broilers. Poultry Science Association Annual General Meeting (July 9 – 12, 2012; Athens, GA). Poultry Science 91 (E-suppl. 1): Abstract #P410.

Clover Bench, Breanne Chmilar, **Matt Oryschak** and Doug Korver. 2011. Evaluation of a lignite-coal water additive designed to reduce ammonia emissions on broiler performance, carcass attributes, selected welfare measures and ammonia emissions. Poultry Science Association Annual General Meeting (July 17 – 19, 2011. St. Louis, MO). Poultry Science 88 (E-suppl. 1): Abstract #447P.

# TECHNICAL PUBLICATIONS

Poultry Research Centre. 2008. *The Commercial Poultry Producer's Guide to Biosecurity*. **M.A. Oryschak** (Ed.). University of Alberta. 39 pg. [PDF]

Alberta Agriculture, Food and Rural Development. 2008. *Nutrient Management Planning Guide*. **M.A. Oryschak** (Ed.). Technical Services Division. 320 pg. [PDF]

Alberta Agriculture, Food and Rural Development. 2003. Guidelines to Beneficial Management Practices: Environmental Manual for Poultry Producers in Alberta. **M.A. Oryschak** (Project Manager). Technical Services Division. 106 pg. [PDF]

# RECENT GRANTS

E. Beltranena and **M.A. Oryschak** [Co-investigators]. Practical dietary strategies to reduce carbon footprint and ammonia emission intensity of table egg production. Alberta Funding Consortium Project 2016F039R. Project duration: 2016-19. Total funding awarded: $403,400

**M.A. Oryschak** [Principal Investigator]. A dietary approach to reducing the carbon footprint of table egg and chicken production. Growing Forward 2 – Research Opportunities and Initiatives Project MO9009634. Project duration: 2016-2018. Total funding awarded: $469,759.

**M.A. Oryschak** [Principal Investigator]. *Camelina sativa* cake as a feedstuff to enrich table eggs with omega-3 fatty acids and tocopherols. Growing Forward 2 – Research Opportunities and Initiatives Project MO5748262. Project duration: 2014-2016. Total funding awarded: $189,350.