Alberta Agriculture and Forestry

Proposal Number	2019F999R
Project Title	The development of a rapid, accurate, and less expensive test to determine the viability of a solution to a major problem
Name	Dr. Vivion Stash
Organization	Livestock Research Institute
Proposal Submitted	03/29/2018
Project Start Date	12/01/2018
Project Completion Date	11/30/2021
Target Industry, Background, and Problem Statement/ Innovation	a) Poultry, Hatching Egg (chick health, first week post-hatch). b) Background: A brief introduction to the source of the problem. Gives background on what issues a producer will run into and what the potential impacts of the target industry problem are. Problem Statement/Innovation: Mortality of broiler chicks in the first 7 days post hatch is high, the primary cause or this mortality is a high percentage of total market value and solving this problem could confer $X back to the AB producer.
Project Description for Proposed Solution/Innovation	We have previous data to suggest that three different approaches/interventions have a positive effect on health of chicks in the first week post-hatch. We will examine this problem, determine if agent W will positively affect chick gut health in an on-farm trial, and characterize the effects of X, Y, and Z on improving mortality. To determine the underlying mechanisms behind a problem with the hatching egg industry. Deliverable 1: a working model of how variable X influences the fertility of breed Y Deliverable 2: a rapid test, which determines whether variable X is present at sufficient quantities to affect fertility. The test will be done through examination of characteristic Z in hens

Deliverable 3: an on-farm pilot of the test to determine how variable X affects fertility of hens on Bornbaby Farms. We have preliminary data from project YYYYR001R on the involvement of variable X in the fertility of eggs as measured by characteristic Z.

Industry Impact & Detailed KTT Plan

What are the industry impacts and/or impacts on farm? Who will the end user be? Who will benefit from this proposed project? Be concise and clear how this work will impact Alberta/western Canada. How will the project deliverables advance the knowledge base or technologies available to your target industry? Keep it realistic and if possible, economically quantify the direct benefits to producers/processors. What industry publications/resources can you use in order to get the information to producers in Western Canada? Are there organizational/institutional processes (e.g. variety release programs etc) which will be involved in your KTT plan? Are there tools that will directly impact producers on farm? If not, what is your path to commercialization?

LOI Funding Request

Funding Agency Cash	Gov't Cash	Gov't In-Kind	Industry Cash	Industry In-Kind	Total Project Cost
$267,410	$0	$288,225	$30,000	$29,400	$615,035

Budget Commentary

Funding Agency Cash Request:($267,410)

Personnel ($180,500)

- 3.0 years x $50,000 for technician @ 0.5 FTE = $75,000
- 3.0 years x $25,000 for PhD student = $75,000 ($25K/year) Minus $30K from Industry Cash (see below)
- 2.0 years x $3,500 for MSc student = $48,000 ($24K/year)
- 0.33 year for summer student = $13,000

Travel ($4,500)

- Scientific conferences: 2 trips x $1,750/trip = $3,500 (one in Yr 2 for MSc and one in Yr 3 for PhD)
- Travel, registration, accommodation for local meetings = $1,000 (one in Yr 2 for MSc and one in Yr 3 for PhD)

Supplies ($170,670)

- Facility charges: $48/d x 1,095 d = $52,560
- Fertilized eggs (3 lots of 50 eggs @$10/egg+$2/egg shipping = $1,800)
- Lab supplies, disposal, storage: $17,500 per year = $52,500
- Contracted analysis (150@$75): $11,250

Publication (CDL) ($4,800)

• 4 manuscripts x $1,200 each = $4,800 (one in Yr 2 and three in Yr 3)

Confirmed Sources of Industry Cash: ($30,000) = Will cover $10,000 of the stipend of the PhD each year

• Chickens Alberta ($3,500)

• Canadian Chicken Research Program ($26,500)

In-Kind - Gov't ($288,225)

Livestock Research Institute, $172,500 (Dr. Stash)

• estimated as a total of 0.5 FTE x $115,000: dollar value of the applicant's salary including benefits.

University of Coupenhagen, $115,725 (Dr. von Shelling)

• estimated as a total of 0.1 FTE x $385,750: the average cost to conduct research, including faculty salary/benefits and office, laboratory, and research station costs.

In-Kind - Industry ($29,400)

Bornbaby Farms, $29,400 (Dr. Ranchester)

• estimated as a total of 0.1 FTE x $98,000: dollar value of the collaborator's salary including benefits.

Suggested Reviewers

Name	Preferred Reviewer 1
Name	Preferred Reviewer 2
Name	Preferred Reviewer 3
Name	Preferred Reviewer 4

Project Team Leader

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Project Team Members	Eggbert von Shelling - University of Coupenhagen Caitlin Ranchester - Bornbaby Farms

Detailed Info:

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Bornbaby Farms