Protein Industries Canada

APPENDIX A

Reporting to the Federal Government

E – A summary of any updates to the Recipient's investment policies, standards and procedures, if any;

PROTEIN INDUSTRIES CANADA ("PIC")

Investment Policy Statement ("IPS")

I. Purpose

The purpose of this Investment Policy Statement (IPS) is to establish guidelines for the investable assets (the "Portfolio") of Protein Industries Canada. This document shall apply to the Finance and Audit Committee of the Board, as well as all Investment Managers hired to assist with the management of the Portfolio.

II. Investment Objectives & Constraints

A. The objective of the Portfolio is the preservation of the capital to meet future disbursement requirements.

B. The Portfolio is also subject to the following constraints:

(a) Protein Industries Canada shall not encumber the Portfolio in any way, including, but not limited to, encumbrances in any way connected to (i) borrowing money; (ii) issuing any debt obligations or securities; (iii) guaranteeing any debt or other obligation of a person, mortgagor or other entity; or (iv) pledging all or any portion of the Portfolio by way of security for payment to any creditor.

(b) Investments of the Portfolio in the securities of any one issuer, or two or more affiliated entities, shall be limited to no more than ten percent (10%) of the investment portfolio's assets.

(c) Subsection II B (b) does not apply in respect to:

(i) investments in securities issued by the Government of Canada or the government of a province, or securities that carry the full faith and credit of either; and

(ii) any index, segregated, mutual or pooled fund.

(d) Investments of the Portfolio in securities with a credit rating of "A" (including all sub-classifications of this rating category), by at least one of the recognized credit rating

agencies, shall be limited to no more than twenty percent (20%) of the investment portfolio's assets.

(e) Investments of the Portfolio in securities with a credit rating of "AA" (including all sub-classifications of this rating category), by at least one of the recognized credit rating agencies, shall be limited to no more than seventy percent (70%) of the investment portfolio's assets.

(f) Investments in securities that are not issued by, or carry the full faith and credit of either the Government of Canada or the government of a province, shall be limited to no more than eighty percent (80%) of the investment portfolio's assets.

(g) Where external credit ratings are applied, investments or counterparts shall have a credit rating from at least two of the four following rating agencies: Moody's Investors Service Inc., Standard & Poor's Ratings Services, Fitch Rating Ltd., and DBRS Ltd. When there are two or more ratings for an entity or security, the lower of the highest two ratings should be used to determine eligibility, in accordance with Basel III rules. When there is an assumption of government support in the rating, standard-alone ratings should be used where available; otherwise the official rating should be used.

(h) Protein Industries Canada shall not invest the Portfolio in securities that are not denominated in Canadian dollars.

III. Description of Responsibilities

A. The responsibilities of each party involved in managing the portfolio are defined below:

1. Finance and Audit Committee:

The Finance and Audit ("Committee") is established under the authority of, and is accountable to, the Board of Directors (the "Board") of Protein Industries Canada. The Committee assists the Board in fulfilling its governance responsibilities with respect to Protein Industries Canada's Portfolio.

Without limiting the generality of the foregoing, the Committee shall:

a. approve the appointment and termination of Investment Managers;

b. review and approve Investment Manager mandates;

c. approve the appointment and termination of Protein Industries Canada's investment custodians and other providers of investment-related services, or delegate such approval as appropriate;

d. review, on a quarterly basis, all matters related to the investment of the Portfolio;

e. review, at least annually, the Statement of Investment Policy, and monitor compliance with this policy;

f. review, at least annually, the performance of each Investment Manager and providers of investment-related services;

g. implement investment matters as provided for in the Statement of Investment Policy;

h. monitor, as required, Protein Industries Canada staff's compliance with guidelines and processes for the selection of Investment Managers, including compliance with Protein Industries Canada's conflict of interest policies;

i. approve the management fee on the Portfolio and any modifications thereto.

2. Investment Manager:

The Investment Manager ("Manager") is a person or organization that makes investments of the Portfolio on behalf of Protein Industries Canada under this Investment Policy Statement. The Manager may handle all activities associated with the management of the Portfolio from day-to-day buying and selling securities, to portfolio monitoring, transaction settlement, performance measurement, and regulatory and client reporting.

IV. Fiduciary Duty

A. In seeking to attain the investment objectives set forth in the IPS, the Prudent Investor Rule shall apply, which states that the Finance and Audit Committee is under a duty to Protein Industries Canada to invest and manage the Portfolio as a prudent investor would, as described below:

1. The exercise of reasonable care, skill, and caution that is applied to investments not in isolation but in the context of the Portfolio and as part of an overall investment strategy, which should incorporate risk and return objectives reasonably suited to the Portfolio.
2. In making and implementing investment decisions, the Finance and Audit Committee has a duty to diversify the Portfolio unless, under the circumstances, it is prudent not to do so.
3. In addition, the Finance and Audit Committee must:
    a. Conform to fundamental fiduciary duties of loyalty and impartiality.
    b. Act with prudence in deciding whether and how to delegate authority

and in the selection and supervision of agents (i.e. Investment Managers).

c. Incur only costs that are reasonable in amount and appropriate to the management of the Portfolio.

B. The Prudent Investor Rule is based on the following five basic principles:

1. Sound diversification is fundamental to risk management and is therefore ordinarily required of the Finance and Audit Committee.

2. Risk and return are so directly related that the Finance and Audit Committee has a duty to analyze and make conscious decisions concerning the levels of risk appropriate to the purposes, distribution requirements and other circumstances of the Portfolio.

3. The Finance and Audit Committee has a duty to avoid fees, transaction costs and other expenses that are not justified by needs and realistic objectives of the Portfolio.

4. The fiduciary duty of impartiality requires a balancing of the elements of return between production of income and the protection of purchasing power.

5. The Finance and Audit Committee may have a duty as well as having the authority to delegate as prudent investors would.

C. Conflict of Interest Concerning Investment Management:

(a) The Finance and Audit Committee shall ensure that all Investment Managers or advisors who are involved in the investment management of the Portfolio disclose in writing, on a timely basis, the nature and extent of his/her interest, including any material interest in any entity that is a party to a transaction with Protein Industries Canada.

(b) The Finance and Audit Committee shall also ensure that Protein Industries Canada's conflict of interest policies and procedures cover, among others, voting, prohibited transactions, continuing disclosure and avoidance standards.

V. Investment Philosophy

The basic tenet upon which the IPS is based is for the preservation of the capital to meet future disbursement requirements.

VI. General Guidelines

A. Maturities of the Securities. The maturities and terms of investments shall match the profile of Protein Industries Canada's forecasted disbursements of the Portfolio. In cases where the timing of disbursements is unknown, investments shall be held in securities with term to maturity of one year or less.

B. Permitted Investments. The following constitute permitted investments:

(a) bank certificates of deposit;

(b) banker's acceptances;

(c) treasury bills, commercial paper and other short-term securities, bonds and notes issued by the federal government, provincial governments, municipal governments and corporations; and

(d) other fixed-income securities that carry the full faith and credit of the Government of Canada.

C. Prohibited Investments and Trading Activities. Protein Industries Canada undertakes not to engage or invest the Portfolio in the following:

(a) equities or shares issued by any corporation;

(b) hedge funds or funds of hedge funds;

(c) fixed-income instruments rated below A- by Standard & Poors or Fitch Ratings, A3 by Moody's or A- by DBRS;

(d) derivatives or any instruments that have derivative holdings or features;

(e) non-marketable securities;

(f) commodities;

(g) repurchase agreements against securities which are not permitted to be held in the Portfolio;

(h) margin transactions or any form of leveraging; and

(i) exchange traded funds, segregated, mutual or pooled funds.

VII. Monitoring Portfolio Investments & Performance

A. The Investment Manager shall prepare a quarterly performance report, which should include the Portfolio's performance, asset allocation, and compliance with all applicable guidelines defined in the IPS. The Portfolio and individual Investment Managers shall be measured against appropriate benchmarks for the asset class.

B. Performance of the Portfolio, as well as individual Investment Managers, shall be measured versus appropriate benchmarks over rolling 3- and 5-year periods, measured quarterly.

C. The Portfolio shall be reviewed at least quarterly to ensure that all Investment Managers remain in compliance with all applicable guidelines defined in the IPS.

VIII. IPS Review

A. Any of the following shall trigger a review of the IPS:

1. A change to Protein Industries Canada's Investment Objectives.

2. In the absence of any change to Protein Industries Canada's Investment Objectives, the IPS should be reviewed at least annually.

F — A statement of remuneration setting out the total compensation paid to the Recipient's officers, employees or directors, whose compensation exceeds $300,000 that year, including any fee, allowance or other benefit;

For the fiscal period ending March 31, 2022 one employee's total compensation was in excess of $300,000.

G — Executive confirmation that the financial controls of the organization operate as intended

A strong financial control environment exists at Protein Industries Canada. The Chief Executive Officer and Chief Financial Officer did not note any instances in the fiscal year in which the financial control environment did not operate as intended.

H — Executive confirmation that the Intellectual Property Strategy operates as intended and continues to support the objectives set out in the Corporate Plan

The following information serves to confirm that Protein Industries Canada's Intellectual Property Strategy operates as intended and continues to support the objectives set out in the Corporate Plan:

> Protein Industries Canada continues to support SMEs by providing opportunities to enhance intellectual property literacy, and access to resources including the Protein Industries Canada Director of Intellectual Property. In the fiscal year 2021-22, Protein Industries Canada hosted two intellectual property webinars focusing on accessing public sector IP resources and skill development for managing trade secrets. These webinars were coordinated in partnership with VentureLAB, the Digital Supercluster and Canada's Ocean Supercluster, and hosted approximately 150 total attendees. Protein Industries Canada's Intellectual Property Registry, branded the "IP Hub" has launched as part of Protein Industries Canada's Member Portal, and provides abstracts and key contacts for intellectual property developed in Protein Industries Canada Technology Projects. PIC has continued to strengthen intellectual property initiatives by working with an Intellectual Property Advisory Committee, who provide support, advice and guidance to Protein Industries Canada regarding various issues related to intellectual property strategy and management. Through 2022 Protein Industries Canada's Director of Intellectual

Property will continue to support project consortia on the development and execution of Intellectual Property Rationales for Supercluster supported Technology projects.

K — A summary of instances where foreground intellectual property was not included on the member-accessible registry

The member-accessible registry of foreground intellectual property (Protein Industries Canada's IP Hub) is active. Twenty-four patent filings, 11 trademarks and 2 instances of copyright have been included in the IP Hub.

An additional five provisional patent applications, 93 trade secrets and 9 other IP assets have been reported to Protein Industries Canada. These instances of foreground intellectual property are business-confidential and have not been included on the registry.

L — Dispute Resolution

To date, there have been no conflicts among members and Protein Industries Canada that required a formal dispute resolution process. This includes disputes under the Member Code of Conduct, the Project Selection Committee/Applicant Interaction Policy and the Appeal Process under the Project Selection Guidance Document.

M — The number of SME members that accessed independent expertise and advice in respect of intellectual property through the mechanism referenced in Subsection 15.2(f)

Protein Industries Canada hosted two intellectual property webinars between April 2021 and March 2022. These webinars provided approximately 30 attendees from member companies and 150 prospective members/stakeholders with direct programming to increase understanding of intellectual property and its uses. A selection of PIC led IP webinars are available for on-demand viewing. Topics covered in PIC IP webinars have included identifying, protecting and maintaining trade secrets; methods to secure protection of new technology; approaches to intellectual property strategy; extracting value from intellectual property; and licensing and collaboration. IP workshops have been presented collaboratively with MLT Aikins, ventureLAB, the Digital Supercluster, Canada's Ocean Supercluster and Protein Industries Canada.

Aspects of intellectual property are often incorporated into PIC's external communications. Between April 2021 and March 2022, five articles have been published with a specific focus on intellectual property.

Members participating in the development of Expressions of Interest or Full Proposals for Eligible Projects are encouraged to work with Protein Industries Canada's Director of Intellectual Property on development of the Intellectual Property Strategy for their project. Independent advice was provided to more than 60 SME member companies through this mechanism in the 2021-22 fiscal year. Independent of projects, more than 20 SME member companies discussed non-project IP matters with PIC's Director of Intellectual Property over the fiscal year.

N — Statement of Funded Eligible Costs Incurred & Paid in the Year	2021-22	
	Eligible Funded	ISI Funded
Total Funded Eligible Costs:	$116,828,079	$50,273,856
Operating & Administration	$5,277,634	$3,958,225
Ultimate Recipient Led Projects	$111,399,675	$46,192,860
Recipient Led Projects	$150,770	$122,770

O — Statement of Unfunded Eligible Costs Incurred & Paid in the Year	2021-22
Total Unfunded Eligible Costs:	$1,083,193
Operating & Administration	$167,560
Ultimate Recipient-Led Projects	$915,633

Q — A summary of the results of evaluations and audits carried out by the Recipient during the year, if any

For the year ending March 31 2022, PIC carried out 3 project audits. The internal audits resulted in a reduction to one projects' IMF of $14,914. This adjustment was due to an error in the hourly wage rate calculation as it was found the original pay stubs were not displaying the correct number of hours worked in a particular period. This adjustment was a 1.6% adjustment on total wages claimed. There were no exceptions noted on the other two project audits completed. The audits did not result in any adjustments to PIC's reimbursement of expenses.

PIC also performed an internal review over advance accounts to ensure they were being used appropriately. PIC identified two instances where follow up communication was required to confirm the correct use of advance accounts. No unresolved errors were identified.

R — Summary of Industry-Matching Funds Received During the Year	2021-22
Ultimate Recipient	$65,660,719
Industry - Eligible - Program Management Fees & Membership	$2,904,272
Industry - Eligible - Sponsorships	$0
Total	**$68,564,991**

S — A summary of Ecosystem Development undertaken during the Fiscal Year and the total financial commitments that have been made to this development during the Fiscal Year;	
14 Project Signed during the 2021 - 2022 year	
Total project value	$ 24,689,177.00
PIC Commitment	$ 14,257,349.00
Industry Commitment	$ 10,431,828.00
Ecosystem Development expenditures during the 2021 - 2022 Fiscal Year (includes Cap project reimbursements, Recipient Led Projects and Cap costs funded through O&A)	
Ultimate Rec. Led CB Programs	$ 2,305,107.67
Rec. Led Capacity Programs	$ 122,769.97
Capacity Building Costs	$ 607,433.87
Total	**$ 3,035,311.51**

T — Key Performance Indicators (KPI) 2021-2022

Detailed KPI	Technology	Capacity	Overall
Industry Matching Funds: Technology and Capacity Projects	$296,908,554	$8,569,732	$305,478,285
Industry Commitment	$296,908,554	$8,569,732	$305,478,285
PIC funds committed to projects	$153,626,273	$16,424,115	$170,050,387
Industry Matching Funds Ratio			1.72
Reconciled project costs as a % of project funds committed			52.11%
a. New Positions: Number of new positions hired within project *for 3 completed projects only	155.3	0	155.3
Job Retention: Number of existing positions/employees PIC reimburses for	1426	50	1476
Anticipated Jobs: Number of potential jobs created by March 31, 2023	1044.89	152.3	1197.19
Number of direct, indirect and induced jobs by March 31, 2031 *for 28 projects analyzed	10800	0	10800
Number of organizations collaborating in projects	298	132	430
Number of SME's participating in projects	154	13	167
Number of Universities & colleges participating in projects	51	22	73
Number of Research institutions participating in projects	79	6	85
Number of Anchor firms participating in projects	43	21	64

Number of foreign firms participating in projects	16	4	20
Number of connections (outside of projects) - events, introductions, other connections			596
Number of events hosted by PIC			15
Number of participants PIC events, PIC attended events			1266
Number of SME's participating in PIC events, webinars, networking opportunities			208
Number of international events PIC attended			7
Number of international events PIC was the organizer or partner			3
Number of international collaboration meetings			50
Number of Members	-	-	216
Number of SME's that are members			136
Number of Universities & colleges that are members			15
Number of Research institutions that are members			11
Number of Anchor firms that are members			21
Number of international firms that are members			11
Member retention rate	-	-	49%
Number of industry members involved as a consortium member or supporting member of Capacity Building projects	-	-	34
Number of services, products or processes expected			633
a.1 Services	*21*	*0*	*21*
a.2 Products	*422*	*0*	*422*
a.3 Processes	*190*	*0*	*190*
Number of services, products or processes created or developed			*89*
b.1 Services	*6*	*0*	*6*

b.2 Products	*47*	*0*	*47*
b.3 Processes	*36*	*0*	*36*
Anticipated IP Assets Registered (Patent, Trademark, Breeder rights)	77	0	*77*
Anticipated IP Assets Non-Registered (Trade Secret, Copyright)	153	0	*153*
Reported IP Assets, Registered (Provisional/Non-Provisional Patent, Trademark, Plant Breeders Rights)	37	0	*37*
Reported IP Assets Non-Registered (Trade Secret, Copyright)	107	0	*107*
% of Technology projects focused on co-products			33.30%
Follow on investment - Capital - VC, government, private equity, other	-	-	264.48M
Number of organizations that received follow-on investment	-	-	18
Number of new joint ventures, partnerships or corporations	6	-	8
% of Technology projects that have environmental benefits	71%	0%	71%
10 year GDP expected *for 28 projects analyzed	-	-	15.0B

U – Data Security Statement

Protein Industries Canada is committed to protecting our members' and program data. Our IT service provider virtually protects Protein Industries Canada's data by utilizing several types of anti-virus software, including Sophos Intercept X Advanced, Huntress, Threat Locker, Barracuda SPAM, Malware, Virus Filtering and DNS Filtering, along with deploying Multi-Factor Authentication for employee sign-in. Our website utilizes Craft CMS software to protect any information housed on that site. Information is considered sensitive and confidential (e.g. project proposals and billing information) is stored on access restricted drives within our server.

MNP was engaged by Protein Industries Canada during the year to perform a cyber security assessment with the objective of identifying key security exposures and supporting Protein Industries Canada in identifying prioritized, industry accepted practices and security controls that address the areas of greatest risk to the organization.

2021-2022 Technology Projects Overview

PIC20.01 Novel Oilseed Processing for High Value Co-Products

Main Pillar: Make

Botaneco, Corteva

Botaneco will be utilizing new canola and hemp to create new oleosome and protein products. Each of the materials (oleosomes and proteins) created will be tested for use in feed and food products. New novel feed and food ingredients will create new markets for canola and hemp as well as position Botaneco as a world leader in the oleosome and protein extraction technologies.

This project is on track. Recent trials have shown great success in establishing Botaneco's protein concentrate as a high-quality aquaculture ingredient.

Total Project Value	**PIC Contribution**	**Industry Contribution**
7,056,877	3,716,498	3,340,379
Private Partners	**Research & Academic Partners**	
9	6	

PIC20.02 Creation and Utilization of High Protein Canola

Main Pillar: Create

Corteva with Botaneco, Bunge

This project is designed to create a long-term, step-change improvement in protein content in the Canadian canola crop. Corteva will drive this by making canola hybrids that produce high protein oilseeds for downstream use. This will open new, higher value markets and create economic benefits across the entire value-chain.

This project is on track and is making progress towards the development of high protein canola varieties.

Total Project Value	**PIC Contribution**	**Industry Contribution**	
27,688,383	14,524,028	[illegible]	13,164,355
Private Partners	**Research & Academic Partners**		
1	2		

PIC20.03 Empowering Farming Through Data

Main Pillar: Grow

Provision with Verge Ag, Skymatics

This project aims to put together a useable and complete Farm Level Dataset and create a tool by which the farmer can access or share this dataset. This Farm Level Dataset will then be leveraged by Provision Analytics, First Pass, and Skymatics to help solve specific issues faced by farmers such as Coutts Agro today.

The project has had great success at collecting and analyzing data to inform the development of their platform solutions. The consortia are working on the final aspects of platform integrations and have begun preparing to be able to offer their solutions at a larger scale.

Total Project Value	PIC Contribution	Industry Contribution
9,258,105	5,073,899	4,184,206
Private Partners	**Research & Academic Partners**	
0	0	

PIC20.05 Sustainable Protein Nourishment

Main Pillar: Make

Griffith Foods with Pristine Gourmet, K2 Milling

The focus of this project is to provide the industry with nutritionally balanced, functional, organoleptically pleasing, textured plant-protein blends that can be utilized within existing process infrastructure and help the meat processing industry access the alternative proteins market.

The project has progressed well. The consortium has completed its second set of trials, and the analysis is ongoing. New product concepts and applications are also developed.

Total Project Value	PIC Contribution	Industry Contribution
1,216,303	630,383	585,920
Private Partners	**Research & Academic Partners**	
1	1	

PIC20.08 Tech development and commercialization of high-quality plant protein ingredients and consumer products

Main Pillar: Make

Roquette with Prairie Fava

This project will address nutritional challenges and processing challenges for pea and fava. Research will explore means to overcome the amino acid deficiencies of pulse proteins, address anti-nutritional components through processing research, and address functionality constraints. The clinical health benefits of pulse proteins will also be examined. The research also encompasses breeding of improved fava bean varieties. This proposal presents a unique ecosystem partnership to continue developing the pea protein segment in Western Canada and to exploit the numerous application opportunities for fava beans.

This project is on track with Roquette's new pea facility becoming operational and successful development of fava as a high value food ingredient.

Total Project Value	PIC Contribution	Industry Contribution
28,479,280	10,281,359	18,197,921
Private Partners	**Research & Academic Partners**	
10	4	

PIC20.09 Improve Functional Properties of Pulse Ingredients

Main Pillar: Make

Ingredion Plant Based Protein Specialties with Ingredion Inc, T Base 4 Investments and OMD Food Products

This consortium and its partners will be launching a new facility that will result in the Canadian production of flavour-neutralized plant-based protein and other pulse fractions grown in Canada and around the world. As such, this project has identified four key opportunities to address. These are: (A) Understanding and directly addressing the plant-based protein flavour challenge by enabling ingredient production using its novel technology (B) Further enabling the production of Canadian value-added plant-based protein products and ingredients, (C) Capitalizing on plant-based protein opportunities locally and globally, and (D) Enable existing and new Canadian food manufacturers who need competitive access to products with increased functionality.

The consortium has commissioned pre-processing and production facilities, and is providing samples product to prospective customers for evaluation and feedback.

Total Project Value	**PIC Contribution**	**Industry Contribution**
49,340,952	12,915,393	36,425,559
Private Partners	**Research & Academic Partners**	
1	1	

PIC20.11 Commercializing the world's foremost canola and pea protein ingredients

Main Pillar: Make

Merit with TWC Nutrition, Pitura Seeds

Merit Foods is in the planning stages of building a state-of-the-art protein processing facility to produce novel canola and pea protein isolates. Using a proprietary process, their isolates have high purity and solubility, making them neutral in flavour and less gritty than standard plant protein isolates.

This project is complete with the Merit pea and canola processing plant becoming commercial.

Total Project Value	**PIC Contribution**	**Industry Contribution**
70,354,765	10,374,067	59,980,698
Private Partners	**Research & Academic Partners**	
10	1	

PIC20.16 Development of a pulse-based ecosystem by producing local pulse ingredients for vegetable protein and plant-based food applications

Main Pillar: Make

AGT Foods with Ulivit, Tuft and Paw

The consortium will develop a suite of plant-protein-based ingredients formulated from existing commercial protein concentrates. The proposed ingredients will compete with existing and emerging

ingredients that are typically formulated with (more expensive) protein isolates. The use of dry fractionated pulse proteins as a feedstock will enable the consortium to create lower cost products using less energy and water than traditional processes. The proposed project will employ two custom designed extruders in a pilot scale facility. Pre-treatment (enzymatic or fermentation) will be used to process the protein concentrate feedstock prior to extrusion. The consortium will process pea, lentil and faba bean protein concentrate into high moisture meat analogue, texturized vegetable protein, tempeh, tofu, pasta and non-dairy analogues. Pre-commercial production of this suite of products will enable the consortium to complete market development activities including contracting third-party service providers to create and test market acceptance of consumer ready products using the ingredients. Successful launch of the protein concentrate based products will provide a new market opportunity for Canadian grown pulses.

The final stages of equipment installation are underway in the pilot scale production facility. A new partner has joined the consortium and will work on additional value-added applications for pulse fractions.

Total Project Value	**PIC Contribution**	**Industry Contribution**
12,939,944	5,855,044	7,084,900
Private Partners	**Research & Academic Partners**	
5	3	

PIC20.17 A novel approach to improving the value of fibrous by-products from pulse processing industry

Main Pillar: Make

Lucent BioSciences with AGT Foods

Lucent Biosciences has developed a proprietary micronutrient fertilizer technology that uses low value organic fibre from the food processing industry to transport nutrients to plants. The consortium will use Lucent's technology to upgrade AGT's low-value fibre stream from pulse processing. The project will enable the consortium to demonstrate pilot-scale manufacturing and develop the market for this new micronutrient fertilizer.

The project was completed in 2021. Field trials yielded positive results and a subsequent project with new collaborators has been initiated.

Total Project Value	**PIC Contribution**	**Industry Contribution**
2,331,799	1,376,587	955,212
Private Partners	**Research & Academic Partners**	
11	5	

PIC20.20 Yellow Peas and Data Trust Tech

Main Pillar: Create

Sightline with DL Seeds, SeedNet

The project focuses on the development of high-protein pea varieties for use in Western Canada. Top protein content lines will be brought in to create an even higher protein content for yellow pea varieties that perform better in terms of protein content and yield than current varieties available for western Canadian farmers. To accelerate data acquisition, protection, valuation and computational analysis the seed developer will work with a Canadian tech SME for deployment of data trust technology under R&D conditions, and significant computational (AI/machine learning) tools and expertise.

Total Project Value	**PIC Contribution**	**Industry Contribution**
3,514,180	1,889,653	1,624,527
Private Partners	**Research & Academic Partners**	
4	3	

PIC20.29A Automated Risk Management Systems for the Value Chain

Main Pillar: Grow

Farmers Edge with OPI Systems

This project will initially focus on capturing and developing artificial intelligence for grower risk management to value-added protein opportunities. This will involve data science on crop health management practices and prediction modelling. Parallel activities on an international traceability/sourcing standards will be undertaken with the Standards Council of Canada that will involve direct input into a digital permission-based ledger to remove regulatory (market entry) barriers for existing and new value-added plant protein products.

Project completed in Spring of 2021. Final base work in smart agronomy and traceability set up Part 2 of the project, which began Spring of 2021.

Total Project Value	**PIC Contribution**	**Industry Contribution**
31,577,518	8,461,549	23,115,969
Private Partners	**Research & Academic Partners**	
6	1	

PIC20.29B Automated Risk Management Systems for the Value Chain

Main Pillar: Grow

Farmers Edge with OPI Systems, TrustBix

Part 2: The resulting risk management solutions from the data sets will be harnessed to set the stage for e-commerce connecting the value chain stakeholders.

Project began in Spring of 2021 and is nearing completion.

Total Project Value	**PIC Contribution**	**Industry Contribution**
17,085,422	8,542,711	8,542,711
Private Partners	**Research & Academic Partners**	
5	1	

PIC20.32 Development of new plant protein products for Asian markets by leveraging soy processing tech

Main Pillar: Make

Mera with Mera Food Group, Sonic Milling Systems and Benson Farms

The project is envisioned as Phase 1 of a larger transformational effort that includes new protein food and ingredient development through the enhancement of cavitation technology. Both established and emerging Western Canadian crop sources will be used to formulate new products based on market research and trials in Asian markets. Market channels will be developed to promote traceable 'Made in Canada' products.

The consortium is commissioning commercial scale production and packaging equipment for beverage applications.

Total Project Value	**PIC Contribution**	**Industry Contribution**
7,216,186	3,693,983	3,522,203
Private Partners	**Research & Academic Partners**	
6	0	

PIC20.35 Improving cost/energy efficiency of pulse protein with patented tech ACAPS

Main Pillar: Make

GrainFrac with Tomtene Seed Farms, Ripple Foods

The objective is to bring broader variety of high quality, high purity plant proteins to market, but in a much more cost-effective manner. In addition to being able to manufacture at lower cost, the project lead can also produce protein from a number of raw material sources including pulses (peas, lentils, mung bean, etc.), oilseed meals and cereal grains. Their process also has lower environmental impact by greatly reducing the use of water and energy in the production process.

Work is ongoing and is focusing more on qualitative attributes.

Total Project Value	**PIC Contribution**	**Industry Contribution**
4,336,018	2,174,131	2,161,887
Private Partners	**Research & Academic Partners**	
0	1	

PIC20.47 Commercialize innovative Canadian food processing tech to manufacture soy protein ingredients for domestic and global markets

Main Pillar: Make

SeedComm (CPI-IPC) with Agrocorp, Synthesis

A unique Canadian value chain partnership has formed to co-invest in innovation that will build and operate Canada's first advanced hexane-free processing facility for high value food ingredients derived from non-GMO and organic soybeans, hemp and other oilseeds.

This project is still in the early stages of discovery.

Total Project Value	PIC Contribution	Industry Contribution
3,440,066	1,731,983	1,708,083
Private Partners	**Research & Academic Partners**	
2	1	

PIC20.52 Sustainable traceable "zero-chem" ecosystem

Main Pillar: Grow

Precision.ai with Sure Growth, Exceed Marketing, Global Institute for Food Security

This project aims to create a sustainable, traceable "Zero Chemical Residue" ecosystem for the Canadian plant protein industry, consisting of development and commercialization of a revolutionary new crop protection technology that leverages artificial intelligence to reduce chemical use by up to 95 per cent.

The project is on track. Trials and field operations are well underway and enjoying considerable success.

Total Project Value	PIC Contribution	Industry Contribution
23,925,634	11,883,816	12,041,818
Private Partners	**Research & Academic Partners**	
10	2	

PIC21.01 Limited exploiting of the potential of tempered whole pulse flours with specific functionality in plant-based foods

Main Pillar: Sell

Avena Foods with Bakenology, Big Mountain Foods, Daiya Foods, The Village Bakery

The project seeks to improve and scale up current milling technology; develop baseline information on the functional, nutritional and functional properties of pulse flours; determine which pulse varieties are best suited to mill; and if off-grade pulses may be used in milling, investigate the market potential and appropriate marketing activities. Four of the project lead's current customers have joined the consortium as project partners and will be doing product development of pulse ingredients in both new and existing products, with commercialization of products possible within the timeline of the project. Two of these project partners are in the UK, an important export market for Canada.

Project is on track and ongoing with processing, functionality and end product assessment, as well as agronomic evaluation underway.

Total Project Value	PIC Contribution	Industry Contribution
20,710,025	5,173,779	15,536,246
Private Partners	**Research & Academic Partners**	
6	1	

PIC21.05 Evidence-based plant protein enteral and fitness nutrition

Main Pillar: Sell

Enhanced Medical Nutrition with Gruppo Nutrition

Develop and bring novel evidence-based plant-protein blend(s) to market supporting a clear gap for both athletic and healthcare populations that meets or exceeds the whey protein isolate gold standard for muscle protein synthesis, digestibility and palatability.

This project is on track with functionality and clinical work still underway, and one product launched commercially.

Total Project Value	**PIC Contribution**	**Industry Contribution**
2,212,850	1,127,970	1,084,880
Private Partners	**Research & Academic Partners**	
0	1	

PIC21.10 Functionality improvement of pea and canola processing

Main Pillar: Make/Sell

Merit Functional Foods with Daiya Foods, Grand River Foods and TWC Nutrition

Adding value to Canadian pea and canola proteins and finished products through functionalization and sensory improvements.

Merit has completed the optimization work. The downstream partners are working on developing new products using the ingredients developed.

Total Project Value	**PIC Contribution**	**Industry Contribution**
8,737,721	3,768,522	4,969,199
Private Partners	**Research & Academic Partners**	
9	2	

PIC21.11 Novel Japanese and Asian-style vegan protein products using Canadian ingredients

Main Pillar: Make/Sell

Wamame Foods with Wismettac Asian Foods, Merit Functional Foods and Crush Dynamics

Developing novel plant-based beef, chicken, and other products using Canadian protein ingredients. The consortium is reformulating current soy product lines to incorporate Canadian commodity crops. The project aims to scale up manufacturing of high-end Japanese and Asian-style vegan products for quick serve, mid and upscale restaurant markets.

The project is on track with the product development work at Wamame Foods. The consortium is market testing in international markets, and are adding additional partners to accelerate the work.

Total Project Value	**PIC Contribution**	**Industry Contribution**
7,571,252	3,785,626	3,785,626
Private Partners	**Research & Academic Partners**	
3	1	

PIC21.13 Creating a lupin ecosystem in Canada - from the seed to fork

Main Pillar: Make

Lupin Platform with PURIS, Lumi Foods and Hensall Co-op

Lupin is a new pulse crop with significant potential for farmers and processors in Canada. It has the highest seed protein content (range 32-36%) of all the pulses, and is unique in having little starch (2.0%) and slightly more oil (6.0-8.0 % versus 1.0-1.5%). The goal of this project is to develop a closed loop farm-to-fork approach for this high-value protein crop to improve access to ingredients and respond to demand while increasing diversification options for Western Canadian farmers.

Partners are focusing on field trials and processing trials to optimize production of protein isolates for application in dairy and egg alternative products.

Total Project Value	PIC Contribution	Industry Contribution
7,324,283	2,805,686	4,518,597
Private Partners	**Research & Academic Partners**	
11	2	

PIC21.16 Plant based seafood products based for the mass market

Main Pillar: Make

New School Foods with Liven

Developing plant-based seafood products based for the mass market.

The project is on track and has shown immense success in the benchtop trials for developing seafood products. The partners are optimizing and scaling their processes.

Total Project Value	PIC Contribution	Industry Contribution
1,859,168	929,584	929,584
Private Partners	**Research & Academic Partners**	
6	6	

PIC21.17 Addressing taste and texture with accelerated breeding tools

Main Pillar: Create

NRGene Canada with Farmers Business Network Canada, Pulse Genetics and Manitoba Harvest

Using accelerated breeding tools and existing germplasm, the consortium will identify molecular markers that are associated with taste, texture and other organoleptic qualities of both pea and hemp. These markers will the enable the consortium to accelerate breeding to create pea and hemp varieties with taste and texture attributes desired by consumers.

Project is ongoing: functionality testing, germplasm collection, genome assembly, and more are all proceeding according to schedule.

Total Project Value	PIC Contribution	Industry Contribution
5,101,937	1,800,968	3,300,969

Private Partners	Research & Academic Partners
1	0

PIC21.19 Development of nutritionally and functionally superior plant-based milk, yogurt, and eggs using Canadian ingredients

Main Pillar: Make

Good Food Institute/YoFiit with Avena Foods and Roquette Canada

The project will solve technical challenges in formulating plant-based milk, probiotic-rich yogurt and dairy alternatives, functional liquid egg analog, and meat analogue products, with a key focus on maintaining the nutritional content and equivalency to conventional products for the CPG market with limited fillers.

Project is progressing according to schedule. Yogurt development is most advanced and is proceeding to a larger scale.

Total Project Value	PIC Contribution	Industry Contribution
1,746,540	773,270	973,270
Private Partners	**Research & Academic Partners**	
0	1	

PIC21.26 Next Generation Artisanal Plant-Based Cheeses from Canadian Crops

Main Pillar: Make

Lumi Foods with Save-On-Foods and Crush Dynamics

The consortium will build on the expertise of Lumi Foods (legacy brand: Blue Heron Creamery) to develop next generation high protein plant-based cheeses through microbial fermentation, enzyme treatment and affinage techniques. The goal is to develop new B2B and B2C cheese products, B2B novel microbial cultures to sell to other cheesemakers and B2C kits for vegan cheese making at home.

Work with the University of Alberta is progressing well. Raw material milestone is half complete, and alt-protein work is proceeding ahead of schedule.

Total Project Value	PIC Contribution	Industry Contribution
10,866,794	5,433,397	5,433,397
Private Partners	**Research & Academic Partners**	
4	2	

PIC21.28 Upcycling Fibrous Co-products from the Pulse Processing Industry into Sustainable, Leading-Edge Micronutrient Fertilizer

Main Pillar: Make/Sell

Lucent BioSciences with AGT Foods, NuWave Research, IN10T, Aberhart Ag Solutions

The project will scale production of Soileos from 1 tonne per day to 10 tonnes per day in a demonstration plant. This scaled production will enable the consortium to conduct demonstration scale

field trials, to develop working knowledge for alternative production methods, and to secure technology licensing agreements.

Production of micronutrient fertilizer for 2022 field trials has been completed and engineering is underway for a commercial scale manufacturing facility.

Total Project Value	PIC Contribution	Industry Contribution
19,171,896	6,989,748	12,182,148
Private Partners	**Research & Academic Partners**	
0	0	

PIC22.01 Improving the Sustainable Fractionation of Pea Proteins and Developing Novel Co-Products

Main Pillar: Make

More Than Protein Ingredients with Quantum Mechanical Technology and Hamman Ag Research

This project aims to scale up technologies that improve product recovery, waste stream recycling, and value-added outcomes during the wet fractionation of peas into protein isolate and co-products. The project also includes initiatives to develop better understanding of pea agronomics and phenomics, along with the development of an R&D production line that will focus on defatting chickpeas or other crops.

This project is on track with current milestones.

Total Project Value	PIC Contribution	Industry Contribution
29,615,187	5,771,594	23,843,593
Private Partners	**Research & Academic Partners**	
3	0	

PIC22.03 The Chickpea Protein Revolution

Main Pillar: Make

Humble and Frank Foods with InnovoPro and Star Produce

The goal of this consortium is to formulate novel chickpea, address critical formulation challenges for chickpea-based products and deliver innovative products for niche markets in the fresh commissary, grocery and quick-serve markets.

The project work specific to new product development using protein ingredients has progressed well and is on track.

Total Project Value	PIC Contribution	Industry Contribution
2,810,646	1,405,323	1,405,323
Private Partners	**Research & Academic Partners**	
1	0	

PIC22.05 Developing Innovative and High-Quality Canadian Plant-Based Seafood Products

Konscious Foods with Merit Functional Foods, Canadian Pacifico Seaweeds

Main Pillar: Make

Developing innovative plant-based seafood products and novel processes that delivers on taste, texture, and nutritional quality.

This project is on track with the seafood product development and testing. Partners are developing new ingredient inputs that can significantly improve the final products, which will be launched commercially.

Total Project Value	PIC Contribution	Industry Contribution
15,335,381	5,524,857	9,810,525
Private Partners	**Research & Academic Partners**	
1	1	

PIC22.06 Scaling up Novel Oat Proteins Production Processes and Creating Novel Oat Protein Products

Main Pillar: Make

Oat Canada with Roquette

The consortium will scale up novel proprietary oat protein concentrate production processes and develop a suite of new products that incorporate these ingredients into new consumer products.

This project is on track, with ingredient development and product assessment both underway.

Total Project Value	PIC Contribution	Industry Contribution
4,104,829	2,052,414	2,052,414
Private Partners	**Research & Academic Partners**	
1	2	

PIC22.10 Clean-Label, Hexane Free Soy Protein

Main Pillar: Make

New Protein International with Huron Commodities and Hensall Co-op

New Protein International has developed a unique proprietary process to produce a clean-label, hexane-free soy protein to satisfy the growing demand of the food industry and address issues associated with use of hexane in the extraction process. This project is expected to provide a Canadian, cost-effective solution for food manufacturers by replacing their hexane-extracted soy ingredients with NPI's clean-label soy ingredients.

This project is on track to set up its pilot plant processing line to develop a new protein ingredient.

Total Project Value	PIC Contribution	Industry Contribution
11,229,550	2,213,565	9,015,984

Private Partners	Research & Academic Partners
3	2

PIC22.16 Optimize the splitting & milling of new LVLCV fava to provide higher quality food ingredients

Main Pillar: Make/Sell

Prairie Fava with Big Mountain Foods

This project brings together a parentship between Prairie Fava and Big Mountain Foods, both innovation-based companies with strong growth potential in the ever-increasing plant-based ingredient and CPG markets. The objectives include the creation of a platform of innovative high-value Canadian chickpea-fava flour blend and 100% fava flour-based CPG.

This project is on track with functionality and end-use assessment underway, and a commercial launch soon.

Total Project Value	PIC Contribution	Industry Contribution
412,170	200,000	212,170
Private Partners	**Research & Academic Partners**	
3	0	

PIC22.17 PROJECT HELIA – Extraction of sunflower proteins

Main Pillar: Make

Burcon Nutrascience with Persall Fine Foods

The consortium members are working to add substantial value to the sunflower value chain. Their approach is to work on a new protein-extraction technology to produce a 90 per cent sunflower-protein isolate from the cold-pressed sunflower feed currently used for animal feed.

This project partners have started testing the extraction technology on the pilot-scale equipment.

Total Project Value	PIC Contribution	Industry Contribution
973,402	250,000	723,402
Private Partners	**Research & Academic Partners**	
1	1	

PIC22.18 Commercialization of Oat Milk Concentrates

Main Pillar: Make/Sell

Plant Veda Foods with HPP Canada, Avena Foods and Thirstea Beverages

The consortium will develop oat-concentrate products (regular and low sweetness) that will be commercially sold to other food and beverage manufacturers using oat flours from Avena Foods. This oat concentrate will then be used as an ingredient base to develop and commercialize plant-based tea products in collaboration with Thirstea Beverages.

This project is on track with optimization and formula development of the oat product currently underway.

Total Project Value	PIC Contribution	Industry Contribution
989,773	494,887	494,887

Private Partners	Research & Academic Partners
0	0

2021-2022 Capacity Building Projects Overview

CAP21.01 Agri-food Opportunity Awareness for Youth

Main Pillar: Labour, Skills and Access to Talent

Enterprise Machine Intelligence and Learning Initiative (EMILI) with Actua

The project intends to address the future labour shortage in the sector, by expanding existing STEM programming for students in kindergarten to grade 12 in the Prairie provinces to make them aware of and increase their interest in career opportunities in agrifood, digital agriculture and plant protein. The project encompasses the development and delivery of content related to agrifood and plant protein in the Prairie provinces. The delivery of the program within Actua's partner academic institutions is done by trained university undergraduate and graduate STEM students, providing them with an opportunity to learn about the sector in a work-integrated setting.

Partners have executed the first round of programing which yielded exceptional engagement from K-12 students and undergraduates despite COVID-19 challenges. The consortium is now in the process of reviewing the curriculum and feedback as they prepare for the second round of programing.

Total Project Value	**PIC Contribution**	**Industry Contribution**
2,042,807	1,428,647	614,160
Private Partners	**Research & Academic Partners**	
3	8	

CAP21.03 FCI-Canada - Food & Beverage Sector Ecosystem Mapping Project

Main Pillar: Data and ICT Management

Conseil de la transformation alimentaire du Québec (CTAQ), Food and Beverage Canada (FBC), Food and Beverage Manitoba (FBM), Food and Beverage Ontario (FBO), British Columbia Food and Beverage (BCFB), Food and Beverage Atlantic (FBA), McGill Centre for the Convergence of Health and Economics, University of Ottawa (UofO), Bivizio

The project will create a national platform that connects local/provincial tools to enable businesses and organizations that comprise Canada's food system, including the plant-protein segment, to connect locally, provincially and nationally to address supply chain challenges, find domestic solutions to disruptions, collaborate to innovate across the value chain, and increase the resilience and value of the sectors involved.

The project will consist of building digital platforms of the food and beverage supply chains in each province, to be hosted by each of the provincial food and beverage associations and linking these together at the national level. The platforms will be populated with information collected through internet scraping and other sources and industry data from the provincial associations themselves. The associations will host the platform, and each will decide on the ultimate functionality of their hub and access privileges, with the ability to manage access for association members and other industry actors. The provincial digital platforms will be based on a platform developed for CTAQ by Quebec company Bivizio and currently in use in Quebec called SNAC (Système Numérique Alimentaire Collaboratif), and that has evolved with added functionality to respond to the emergence of supply-chain disruptions due to COVID-19.

The project proponents believe that the project has the potential to advance innovation in the food and beverage manufacturing sector and the food system overall through enhancing connectivity amongst diverse players.

The consortium has successfully completed the development of their national platform and are working on the final elements of their marketing and business plans before launching this winter.

Total Project Value	PIC Contribution	Industry Contribution
2,663,599	2,129,801	533,798
Private Partners	**Research & Academic Partners**	
0	0	

CAP21.05 The Impact of Animal Protein and Grain Inclusion on Digestibility Parameters and Cardiac Function

Main Pillar: Regulatory Modernization

Protein Industries Canada, Pulse Canada and AGT Food and Ingredients

The US FDA has been investigating the role of pulse ingredients and grain-free diets in dilated cardiomyopathy (DCM) in dogs since June of 2018. As a result of FDA announcements regarding their investigation, sales of grain-free dog foods have declined, and contracts with pulse processors have been significantly impacted. Several hypotheses exist associated with types of diets and ingredients with the development of DCM; however, significant evidence-based research to determine a relationship is lacking. These claims are based on case studies with uncontrolled diets, biased opinions, unknown formulation inclusions, uncontrolled research design, flawed methodology, and a lack of standardization of the study parameters. This comprehensive study aims to account for these study design flaws and compare four distinct diets to represent those that command the majority of the market share and provide answers to the diet-associated DCM hypothesis.

The consortium is nearing the completion of their trials, and working with the data to determine the results.

Total Project Value	PIC Contribution	Industry Contribution
162,500	162,500	-
Private Partners	**Research & Academic Partners**	
0	0	

CAP21.06 Advancing Innovation in the Indigenous Agriculture/Agrifood sector

Main Pillar: Infrastructure

Indigenous Works with the University of Saskatchewan

Indigenous Works will convene a mixed group of 150 practitioners, researchers and specialists representing Indigenous, research, business and NGO communities into a 13-month project which will co-design a national Indigenous Innovation Strategy for the Agriculture-Agrifood Sector with a focus on the themes of Indigenous food sovereignty, jobs, and business growth.
The project will be developing a comprehensive profile of the current state of Indigenous participation in the sector, addressing the issue about the lack of documentation and baseline available. The scope

includes mapping the current state of the sector, creating a new Profile Document and convening a dialogue to identify ways of increasing: (i) collaborations between post-secondary researchers and Indigenous businesses; (ii) research knowledge mobilizations and new product/service innovations; and (iii) employment and business development.
The main outcome will be a five-year strategy to address nine main gaps and barriers and explore opportunities to improve the conditions needed to increase Indigenous participation in the agriculture/agrifood sector and encourage new product/market innovations, especially in segments such as plant protein.

The consortium has completed their consultations with the industry stakeholders and have compiled their findings into a five-year strategy report. The strategy is going through the final rounds of reviews and feedback before the consortia is ready to make it public.

Total Project Value	**PIC Contribution**	**Industry Contribution**
499,650	249,825	249,825
Private Partners	**Research & Academic Partners**	
2	1	

CAP21.07 An Indigenous Strategy for Re-energizing Traditional Wild Rice, Creating a Plant Protein Industry for the Prairies

Main Pillar: Infrastructure

Myera with Southeast Resource Development Center

The project is focused on creating a consistent cultivated wild rice supply chain within Indigenous Communities. It involves plant breeding to identify the best wild rice varieties to be grown in the Prairies and that are higher in protein content; assessing Indigenous Communities to determine which ones have a viable economic fit to grow this crop; training Indigenous Communities on growing wild rice; and commercializing the crop through partners and testing/developing recipes for the use of wild rice in Indigenous foods.

This project is currently in progress. Completed agreements with the University of Manitoba and MITACS have come together, fulfilling other funding aspects of the project. Crops have been planted and the digital aspect is moving forward at a steady pace.

Total Project Value	**PIC Contribution**	**Industry Contribution**
10,723,163	3,650,000	7,073,163
Private Partners	**Research & Academic Partners**	
4	3	

CAP21.12 EMILI Data Initiative

Main Pillar: Data and ICT Management

EMILI with Alberta Data Institute and Alberta Innovate

The EMILI Data Initiative project aims to strengthen the data ecosystem and digital value chain of the Canadian agrifood sector through the facilitation of four areas of focus:

- Advisory Working Group: providing oversight and recommendation on the future direction of the Data Initiative;
- Pathfinding Project: a targeted collaborative applied research project designed to strengthen the capacity of the Canadian agrifood sector;
- Data Literacy Training Program: dedicated to providing people and organizations across the value chain with accurate, balanced and up-to-date knowledge regarding the successful use of data; and
- Pilot Project: a pre-competitive technology demonstration project designed to foster hands on collaboration to identify gaps in the current data ecosystem and data management practices.

This project is on track. Progress has been steady and consistent. The consortium has shown great interest in learning more about engaging with Indigenous communities and organizations.

Total Project Value	**PIC Contribution**	**Industry Contribution**
903,065	438,065	465,000
Private Partners	**Research & Academic Partners**	
11	2	

CAP22.06 Upskilling Talent in the Agrifood Sector

Main Pillar: Labour, Skills and Access to Talent

Palette Skills with University of Saskatchewan

This project is focused on designing and delivering an upskilling pilot program in digital skills in Saskatchewan's agrifood sector. The project includes consultations with key stakeholders and industry partners, as well as leveraging existing reports to determine the most pressing needs of industry and develop a short program to meet the demands of employers. The project aims to have the participation of underrepresented populations in Saskatchewan and a high post-program employment placement.

This project has made great progress in establishing connections with key industry stakeholders to help inform their curriculum development as well as identifying partnerships to enable aspects of hands-on training. The project lead has been able to hire key personal to enable the organization to execute their first upskilling cohort in Saskatchewan. The project is wrapping up their first cohort and in the process of reviewing feedback to inform any changes to curriculum prior to opening registration for cohort 2.

Total Project Value	**PIC Contribution**	**Industry Contribution**
1,080,300	1,010,300	70,000
Private Partners	**Research & Academic Partners**	
0	0	

CAP22.07 Fermentation Ecosystem

Main Pillar: Infrastructure

The Saskatchewan Food Industry Development Centre with Global Agriculture Advancement Partnership, the University of Saskatchewan and Ag-West Bio Inc.

The Saskatchewan Food Industry Development Centre (Food Centre) is constructing the first not-for-profit, pilot-scale fermentation facility in Canada. This new facility will play a key role in small and

medium sized enterprises (SME) having the ability to validate their processes at a scale that can provide enough material for new food applications. This new facility will address the current gap between bench top and large-scale production capacity, which has been limiting the growth potential for Canadian start-ups.
In conjunction with the development of this facility, the Food Centre will be developing training programs for industry members to improve their knowledge and capabilities in the field of bio fermentation. Recognizing that the bio fermentation process will grow in popularity and has the potential to become a preferred method for food manufacturers, there will be an increased demand for highly skilled scientist, engineers, technicians, and operators. Thus, the Food Centre will offer hands on training programs led by their fermentation expert in union with outside industry experts, equipment suppliers, and technical experts. This approach will not only give the trainee the opportunity to work in the facility but get an understanding of the entire fermentation landscape. Further increasing the knowledge and skills of the industry and enabling SMEs to grow their business and networks.
The Food Centre is aiming to boost the plant-based protein fermentation ecosystem through not only providing pilot scale production, but education, and the encouragement of entrepreneurship and collaboration. To achieve their goals the Food Centre is seeking Protein Industries Canada co-investment to support their recruitment of top industry experts, and the development of training and education programing.

Industry outreach through webinars and meetings with prospective clients is underway. Key personnel have been hired and partners are collaborating to enable training and skills development.

Total Project Value	**PIC Contribution**	**Industry Contribution**
1,315,998	704,802	611,196
Private Partners	**Research & Academic Partners**	
0	0	

CAP22.09 Increasing Canada's Training Capacity in Chemical and Food Science Technologies

Main Pillar: Labour, Skills and Access to Talent

Assiniboine Community College with Roquette Canada

This project focuses on developing two new three-year diploma programs at Assiniboine Community College to address the challenges in labour shortage and to meet the opportunities presented through the investments in plant-protein processing and other food and beverage manufacturing in Manitoba and across Canada. The Chemical Engineering Technology Diploma and Food Science Diploma programs will be offered to students across the Prairies, Canada, and international students. These programs will be the first in Manitoba and the Food Science Diploma will be the first in the Prairies.

This project has been able to make progress on curriculum development for both Diploma programs. The consortium are working together to review and finalize the curriculum before finalizing the documentation.

Total Project Value	**PIC Contribution**	**Industry Contribution**
565,760	505,000	60,760
Private Partners	**Research & Academic Partners**	
0	0	

CAP22.13 Plant Forward: The Canadian Plant-based food, feed and ingredient international conference

Main Pillar: Global Brand and International Engagement

Protein Industries Canada with Pulse Canada and Plant-Based Foods of Canada

This project consists of planning and executing an international conference focused on plant-based foods and ingredients. The event will position Canada as the global leader in innovation and supply of plant-based ingredients and food, and the preferred place to do business, showcasing Canada's strength in innovation and providing a stage for Canada's researchers and trailblazing companies. The goal of the conference is to help Canadian companies to make connections with international customers and collaborators, the finance community and leading researchers.

Plant Forward website, venues, and speakers have been confirmed. Registration is now open! The consortium is working on the final preparations as they prepare to execute the conference.

Total Project Value	PIC Contribution	Industry Contribution
407,500	207,500	200,000
Private Partners	**Research & Academic Partners**	
0	0	

CAP22.15 Accelerate Leadership Program with Protein Industries Canada

Main Pillar: Access to Capital

Protein Industries Canada with The Ivey Academy at Western University

The Accelerate Leadership Program, created in collaboration by Protein Industries Canada and The Ivey Academy, is designed to give entrepreneurs and SMEs in Canada's plant-based food, feed and ingredients sector the skills and talent they need to succeed. The eight-month course will take place both online and in person, allowing for timely delivery of material and networking opportunities.
By focusing on knowledge upgrades in areas often seen as overlooked in education offered to the plant-based food and ingredients sector, the Accelerate program will enable SMEs to grow their businesses and market footprint more easily and more quickly, strengthening Canada's plant-based foods and ingredients sector. Participants leave the program with the leadership skills needed to lead people, drive change, and effectively position their organizations for success.

The first cohort have made it through three quarters of the curriculum and the consortia have received very positive and encouraging feedback thus far. Registration for Cohort 2 is now open, and will begin September 20, 2022. The consortium is currently working on recruitment efforts, and refinement of curriculum based on feedback.

Total Project Value	PIC Contribution	Industry Contribution
859,100	825,300	33,800
Private Partners	**Research & Academic Partners**	
0	0	

CAP22.16 Bridge2Food

Main Pillar: Global Brand and International Engagement

Protein Industries Canada with Ag-West Bio

Ag-West Bio - PIC's Partnership on 12th Annual Plant Protein Ingredient Summit - Bridge2Food

This project is completed.

Total Project Value	PIC Contribution	Industry Contribution
325,794	325,794	-
Private Partners	**Research & Academic Partners**	
1	0	

CAP22.21 Micro-Credentialing of Indigenous Youth to Work in Food and Ingredient Processing/Manufacturing Businesses

Main Pillar: Labour, Skills and Access to Talent

Saskatchewan Indian Institute of Technologies with Whitecap Dakota First Nation

The Project will bring together SIIT leadership and regional food processing business executives, managers and HR departments together with Indigenous Leaders and other Third Parties to create/develop, deliver and ultimately support an initiative to increase the employment of successful Indigenous youth candidates wishing to work in the food processing sector.

The Micro-Credentialing curriculum is currently being developed with consultation from key industry stakeholders.

Total Project Value	PIC Contribution	Industry Contribution
964,468	514,468	450,000
Private Partners	**Research & Academic Partners**	
0	0	

CAP22.22 Attracting capital to Canada’s plant-based food, feed and ingredient sector

Main Pillar: Access to Capital

Bellwood Partners with Champlin Advisory

Bellwood Partners, and their consortium member Champlin Advisory will raise and establish a $200 million all-Canadian equity capital fund, targeted at small- and medium-sized enterprises in the Canadian plant-based food, feed and ingredient sector.

Currently, prospective processors across Canada are unable to access the equity capital they require to begin the construction of production facilities. These SMEs need a near-term solution to address the market shortcomings and pursue a valuable, but transient, opportunity for Canadian agriculture. Without which, the value-add elements of the pea-protein value chain are likely to accrue to enterprises outside of Canada.

To accomplish their goal of establishing a $200 million fund, the project will extensively involve capital providers and plant protein processors within Canada, leverage a generational market opportunity to educate investors, and identify pockets of investor capital well positioned to fund processing capacity.

The consortium has made great progress on marketing the benefits of the fund to many potential investors. They are currently working on finalizing agreements with interested parties.

Total Project Value	PIC Contribution	Industry Contribution
2,437,500	1,792,500	645,000
Private Partners	**Research & Academic Partners**	
2	0	

CAP22.23 Regulatory Centre of Excellence

Main Pillar: Regulatory Modernization

Pulse Canada with Protein Industries Canada, Plant-Based Foods of Canada, Loblaw Companies, and Humane Society International

The project is focused on generating data to inform and support changes to Canadian regulatory frameworks that currently impede the food industry's ability to communicate the presence of plant protein to consumers, as well as developing a regulatory centre of excellence to assist companies in the sector

An advisory committee has been established, and research supporting regulatory modernization has begun at three Canadian universities.

Total Project Value	PIC Contribution	Industry Contribution
1,584,000	1,480,000	104,000
Private Partners	**Research & Academic Partners**	
2	2	

CAP22.24 National Index on Agrifood Performance

Main Pillar: Regulatory Modernization

Pulse Canada with the Global Institute for Food Security

This project will carry out nine initiatives to enable the Index to become an essential tool to fulfill Canada’s agrifood ambition: to demonstrate being one of the most trusted and sustainable food systems on the planet and to leverage this to create greater economic wealth.
The ultimate outcome of this initiative is to publish the National Index on Agrifood Performance. The work undertaken within this project is in direct support of this outcome in three main ways: Building momentum and maintaining alignment across a diverse agrifood system; Enhancing the credibility, and scaling up the development of the Index; and Utilizing the results and advice to support the development of the launch of a pilot Index in 2022.

This project has concluded its work and is onto the next phase of implementing and testing the index.

Total Project Value	PIC Contribution	Industry Contribution
659,417	626,444	32,973

Private Partners	Research & Academic Partners
37	6

CAP22.27 Transformational Changes to the Sustainable Protein Research Network

Main Pillar: Infrastructure

University of Manitoba with the Enterprise Machine Intelligence and Learning Initiative (EMILI)

This project builds on an existing publicly available asset map that details the research expertise and infrastructure in relation to sustainable protein related activities in Manitoba. The asset map, renamed the Manitoba Protein Research Network, currently exists as an additional layer of data on EMILI's Digital Agriculture Asset Map. The asset map that was developed requires upgrading to some of the features to provide improved functionality to its end users, and this work will serve as a pilot test for eventual expansion across Canada.

This project is on track. The consortium is finalizing the technology provider that will work on the asset map.

Total Project Value	PIC Contribution	Industry Contribution
172,000	142,000	30,000
Private Partners	**Research & Academic Partners**	
0	0	

CAP22.29 Plant Protein Atlantic: Exploring the Value of Plant Proteins in the Atlantic Region

Main Pillar: Infrastructure

Eastern Canada Oilseed Development Alliance (ECODA) with Dalhousie University and the University of Prince Edward Island

The intention of the project is to explore and quantify the value of plant proteins in the Atlantic region through an asset mapping, value chain analysis, regional comparative analysis, and capacity building in food system literacy project.

The project is on track. Outreach with identified parties continue with the information being collated for the reports.

Total Project Value	PIC Contribution	Industry Contribution
353,307	231,169	122,138
Private Partners	**Research & Academic Partners**	
1	0	