Project ASPIRE: Accelerating Sustainable Protein Impact Results

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Manitoba Protein Advantage Strategy Developed collaboratively under the guidance of Manitoba Agriculture and the Manitoba Protein Consortium. March 2021 ver. (print dimensions 35.75 x 29") **Members of the Design Team** The Strategy was co-created through the generous Chris Anderson - Protein Industries Canada Dominique Baumann - Roquette

ULTIMATE BENEFIT **BE01 Manitoba proudly leads Canada** and the world as an innovative model for high-value sustainable protein that nurtures and benefits all people, the local environment, Local Environment **Benefits** BE09 MB's agriculture and food workplace is safe and healthier for BE10 Reconciliation with Indigenous Peoples is advanced BE03 Public knowledge of and trust in the agriculture BE06 MB's economy grows with and secures BE08 MB communities are more resilient BE12 GHG emissions BE14 The local BE04 MB contributes to UN Sustainable regarded as
a sustainability
leader – in
Canada and
globally and is a sustainable is strengthened with enhanced new talent ecosystem services, improved biodiversity, creation, and improved water

[1] Principles of Reconciliation as described in "What We Have Learned - Principles of Truth and Reconciliation (pp3-4), 2015. Truth and Reconciliation Commission of Canada. [2] Circular Economy principles: A circular economy is based on the principles of designing out waste and pollution, keeping products and materials in use, and regenerating natural systems. [3] Fit-for-purpose means tabular, spatial, meta and are forms of information and knowledge that are relevant, authoritative, complete, accurate, integratable, inoperable, and affordable.

Important Definitional Notes

SP - Sustainable Protein (as in Initiative/ Sector / System including often the closely associated agriculture

[4] 21st Century competencies involve the ability to meet complex demands, thrive in a world where change is

constant and continuous learning draws on many different complementary of skills such as: learning - critical thinking, creativity, collaboration, innovation, self-direction, accountability, and communication; literacy - digital information, media, technology; and life skills - flexibility and adaptability, leadership, initiative, productivity, and

[5] Sustainability strives to attain balance across four dimensions: (a) place minimal pressure and impact on the environment; (b) promote all aspects of an individuals health and well being; (c) be accessible and culturally acceptable; (d) be economically viable and affordable (source FAO, WHO).

[6] For example, to inform, advance, and communicate policies, practices, research, innovative enterprise, industry, marketing, measurement and valuation, consumers, and the public.

[7] For example, Indigenous People with traditional knowledge, scientists and researchers, analysts, marketers, practitioners, policy-makers, communicators, management-planners, etc

[8] UN SDG goals, and in particular #4 - Quality Education; #5 - Gender Equality; #8 - Decent Work and Economic Growth; #10 - Reduced Inequalities; and #16 - Peace, Justice, and Strong Institutions.

[9] This intervention and outcome draw on the Conclusions - Other Considerations section of a 2017 report titled

"Matchup: A Case for Pan-Canadian Competency Frameworks" by the Canada West Foundation.

[10] OCAP™ principles are complied with regarding the right of First Nations to own, control, access, and

Marcel Joaquin - IQFoodChain Egbert Frank Knol - Topigs Norsvin Susie Miller - Canadian Roundtable for Sustainable Crops Duncan Morrison - Manitoba Forage & Grasslands Association \_..\_..\_.. Lee Anne Murphy - Protein Highway possess information about their Peoples. \_\_\_\_\_\_ Henry Rowlands - Detox Project Denis Tremorin - Pulse Canada LONG-TERM GOAL MEASUREMENT, Link to spreadsheet to all Interventions David Weins - Dairy Farmers of Manitoba MONITORING. MMV01 MB and individual Robin Young - Food Development Centre and outcomes in this MMV Functional actors in the SP system AND VERIFICATION LTG01 Through strengthened collaboration and accelerated innovation measure, report, and value respectively their SOIL, ECOSYSTEMS Manitoba realizes its collective and equitable potential to produce protein that is diverse, high quality, healthy and increasingly & BIODIVERSITY sustainable protein activities provide ecosystem goods and services; are healthy, resilient, Legend \_\_\_\_\_\_ MMV02 COLLECTIVE: MMV03 INDIVIDUAL MB measures, reports, and values its collective this impact map, and makes adjustmen PERFORMANCE BASELINE Penultimate benefit category e.g., Climate Change MMV13 GHO & CARBON reductions and storage are defined MV20i Measur and track progress and impact SE06 Croplands, native grasslands, and rangelands are well managed, more productive and contribute to healthy animals, ecosystems, and biodiversity SE07 Intact and restored grasslands and wetlands are integral contributing components of healthy agricultural systems SE08 Water and hydrology are integral to an integrated farming landscape and are in balance with natural and agricultural SE05 Farming and conservation practices improve and maintain important soil properties SE10 Landscapes regionally have the ability to buffer climatic events like floods and droughts better MMV05 MB establishes baseline data and benchmarks on which to measure improvements and performance against other jurisdictions MMV21i Assess, modify and adopt core overarching SP metrics on which to measure and communicate action Longer-term outcome [E] For example, organic matter, soil structure, and mircobiome Functional area outcome carbon, nitrogen and other nutrient retention and cycling, water infiltration and holding capacity, microbiome SP20 Protein feed inputs (both plant and animal, incl. fish, meal) are SP21 Modern technology [a] enables protein inputs and practices to be increasingly sustainable SP23 Water and energy reduction in processing is accelerated SE04i to SE09i Individually or a mix of — adopt, adapt, or develop, and implement, and water / watershed integrity and services Early outcome \_ --- - - - - - - - - - - ^ ` MMV22i Measure and track `----in an integrated manner MMV13i to MMV19i Measure \*\*\*\* Intervention (activity, action SP19i Adopt production approaches and procurement that minimize inputs (incl. fertilizer) SP20i Implement SP-related supply chain standards for feed FINANCE (FI) Group of related types of MMV17 ANIMAL WELFARE benefit SOCIAL are defined sustainably as long as usiness value RESOURCING incentives, returns, and benefits from delivering sustainable IC1 Modern technology include MMV23 Support systems to manage MMV processes and data are transparent and traceable to outcome or between AND FUNDING methodologies are deployed to track leading pest, disease, methane \_\_\_\_\_ FINANCING AND INNOVATION practices ~---and technology applied to deliver a performance improvement. It is not just an idea, but an idea that has been made to work. impactful SP activities and grows globally MMV08i to MMV11i PARTNERSHIP RESOURCES FI17 The financial community supports and invests more in SP businesses and initiative FI21 Voluntary carbon verification valuation and aggregation programs and platforms are utilized in MB ent FI20 Valuation and/or trading of carbon reductions can be accounted RKET INTELLIGENCE IN13 Early IN14 SP approaches adopted farm-lard benefits level management are demonstrated practices and showcased are supported at Scale are uncovered, and rewarded labs IN15 More innovative potential potential potential potential are suitions are supported at Six Cale are uncovered, and rewarded labs and tested IN11 Idea and knownow exchange is expanded and valuable cross-sectoral partnerships are established IN21 Government incentives (i.e. tax incentives) encourage development and adoption of novel SP approaches IN12 Stronger and more trusting indigenous partnerships focused on SP are created **AND MARKETING** BM14 AGRICULTL INTEL: Understand of regional, global sustainabl agriculture practices and technologies is improved 07 DIFFERENTIA MB positions itself as a leader, outdoing other jurisdictions BM13 SUSTAINABILITY INTEL: Understanding of global sustainability priorities and activities is improved IN12i Build stronger indigenous relationships focused on SP business opportunities IN11i Develop networks and cross-sectoral partnerships in MB [G] IN14i Design and support model SP pilot projects WF12 Indigenor community cohorts have the knowhow to create, grow, and sustain Indigenor SP businesses in their community WF09 Learning programs are responsive to current and future needs of the SP sector and labour force WF16 The SP sector natches peop with the right jobs, and jobs with the right people better, more quickly, and less expensively BM19 MB DIFFER ENTIATES itself based on its inherent strengths, actions underway and potential BM28 MB has more strategic exchanges with international forums on sustainability, climate change and biodiversity BM18 The SP sector LEVERAGES CANADA'S positive agri-food and environmenta brands BM20 The SP sector LEVERAGES LEADING SUSTAIN-ABILITY APPROACHES (e.g., circularity) BM25 The SP supply chain can better assess and capitalize on SP market opportunities appropriate access to relevant, reliable, and usable information, knowledge, and intellectual property to advance (6) the SP agenda IK03 SP data, information and knowledge are fit-for-purpose [3] to better support the SP initiative & KNOWLEDGE KNOWLEDGE NEEDS PROPERTY WF12i Design and implement learning programs for small Indigenous community cohorts centred around SP business opportunities WF11i Design and implement equitable learning and work opportunity approaches for Indigenous Peoples, genders, newcomers, and people with disabilities BM21i Define and apply to branding communications and marketing, MB's SP principles (which work for all sizes BM22i Create and share communication and educational materials on MB's SP journey and story BM27i Partner with relevant domestic and internationa players that are at the leading edge of understanding BM17i Craft narratives based on SP activities and validated by the total BM24i Suppor for industry-led market development and targeted HK19 SP-related measurement and valuation information and research knowledge needs are better known HK20 SP market intelligence and communications related information and research knowledge needs are better known IK17 SP-related land resource management information and research knowledge needs are better known IK23 IP policy better recognize Indigenous rights and culture, and is equitable for Indigenous researchers and their communities IK22 SP-related data, information research, knowledge, and IP is shared and **LLABORATION** & INFRASTRUCTURE IK22i Establish context-appropriate protocols for the sharing and use of SP-related data, information, research, knowledge, and IP by non-Indigenous and Indigenous organizations IK14i Translate SP knowledge for consumptior by business, industry, government, and other across the value chain focus groups, etc. to assess current situation PI06 CLEAN
ENERGY: The current and future renewable and alternative energy needs can be accommodated appropriately

PI07 TRANSPORT:
The current and future transportation and distribution needs can be accommodated appropriately PI10 WASTE Nécessary waste and recycling facilities and services are available to support current and future the SP supply chain needs PIO3 NEEDS: SP-related infrastructure development needs are better known, and opportunities are ready to be acted on ("shovel-ready") PI05 ENERGY FRASTRUCTURE Necessary energy and related services are available to support current and future the SP supply chain needs share and exen a common se of values and /T11 Contribute to the SP initiative feel connected and an integra part of larger SP sector transformation ~-----PIU9I Assess and communicate current and future Internet and related service needs, including operating costs, of the SP supply and communicate
current and
future energy
needs, including
operating
costs, of
the SP supply
chain periodically WT15i Design and implement approaches and systems that are fair and WT11i Create and leverage formal and informal networks PI22 Cross-jurisdictional exchanges and equivalencie are more efficient and less costly P124 Winwin HR solutions
are implemented
that both
protect union
jobs while
also enabling
innovation PI20 MB's regulatory and policy environment is easier to navigate for SP related businesses be true to the values equality, diversity, and inclusion the SP sector locally to globally or complex problems requiring collaboration approaches, processes and tools PI17 By-product use and safety approval processes are progressive PI19 Communication between regulators and proponents of SP are effective PI21 Innovative regulations and policies target reduction of waste PI23 Procurement policies better support SP, recycling, and sustainability goals generally PI18 SP employers can have access to a larger pool of newcomers 

Pl17i Engage in forward-looking policy dialogues and advocate for by-product use and safety (e.g., for livestock feeding)

PI18i Engage in a dialogue and advocate for more flexible immigration policies supportive of SP human

PI19i Work with regulators early on in the idea and concept development process

[I] For example on-farm manure

Pl21i Engage in dialogue and advocate for better policies supportive of waste reduction, reuse, and recycling systems [I]

PI22i Initiate a dialogue toward better harmonization of cross-jurisdictional regulations and standards

PI24i Initiate a collaborative dialogue between SP managers and unions to explore any potential barriers to innovation

and Kumu online system mapping software

