Sustainable Protein Impact Map: A Collaborative Action Framework Accelerating Innovation to Realize Manitoba's Impact Potential Important Definitional Notes SP - Sustainable Protein (as in Initiative/ Sector / System including often the closely associated agriculture [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. Sustainable Protein Action Framework* — **ACTIVITIES** [3] Fit-for-purpose means tabular, spatial, meta and are forms of information and knowledge that are relevant, ULTIMATE BENEFIT authoritative, complete, accurate, integratable, inoperable, and affordable. [4] 21st Century competencies involve the ability to meet complex demands, thrive in a world where change is the more than 85 participants who attended the Sustainable Protein Innovation Forum on January 28, 2021. Participants were asked to identify where their work aligns constant and continuous learning draws on many different complementary of skills such as: learning - critical BE01 Manitoba proudly leads Canada and the world as an innovative thinking, creativity, collaboration, innovation, self-direction, accountability, and communication; literacy - digital Developed as part of Manitoba's Sustainable Protein Advantage Strategy, under the guidance of Manitoba Agriculture and Resource model for high-value sustainable information, media, technology; and life skills - flexibility and adaptability, leadership, initiative, productivity, and Development and the Manitoba Protein Consortium. protein that nurtures and benefits all people, the local environment, [5] Sustainability strives to attain balance across four dimensions: (a) place minimal pressure and impact on the Feb 18, 2021 ver. (35.75 x 29") and the climate 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). Members of the Design Team Local Environment [6] For example, to inform, advance, and communicate policies, practices, research, innovative enterprise. This Sustainable Protein Action Framework was co-created industry, marketing, measurement and valuation, consumers, and the public. through the generous contributions and guidance of a BE11 Consumers benefit from having a trusted and healthy food producer BE05 MB is BE06 MB's economy BE07 MB attracts BE09 MB's agriculture BE10 Reconciliation BE12 GHG emissions BE14 The local BE03 Public knowledge of and trust in [7] For example, Indigenous People with traditional knowledge, scientists and researchers, analysts, marketers, diverse Design Team: grows with increased profitability, and secures new talent are more resilient and vibrant and food workplace is safe and are reduced and carbon environment is strengthened with enhanced ecosystem service regarded as a sustainability leader – in Canada and globally – and is a sustainable practitioners, policy-makers, communicators, management-planners, etc. and secures Chris Anderson - Protein Industries Canada water-related climate change the agriculture and food sector [8] UN SDG goals, and in particular #4 - Quality Education; #5 - Gender Equality; #8 - Decent Work and Dominique Baumann - Roquette improved biodiversity Economic Growth; #10 - Reduced Inequalities; and #16 - Peace, Justice, and Strong Institutions. Sav Bellissimo - Federated Co-op Ltd [9] This intervention and outcome draw on the Conclusions - Other Considerations section of a 2017 report titled Carson Callum - Manitoba Beef Producers "Matchup: A Case for Pan-Canadian Competency Frameworks" by the Canada West Foundation. Tim Faveri - Maple Leaf Foods [10] OCAPTM principles are complied with regarding the right of First Nations to own, control, access, and Bruce Hardy - Myera Group possess information about their Peoples. Wayne Hiltz - Manitoba Chicken Producers LONG-TERM GOAL Jim House - University of Manitoba **MEASUREMENT** ______ MMV01 MB and individual Marcel Joaquin - IQFoodChain MONITORING. actors in the SP system LTG01 Through strengthened collaboration and accelerated innovation Egbert Frank Knol - Topigs Norsvin AND VERIFICATION measure, report, and value respectively thei SOIL, ECOSYSTEMS Manitoba realizes its collective and equitable potential to produce Susie Miller - Canadian Roundtable for Sustainable Crops collective and individual protein that is diverse, high quality, healthy and increasingly & BIODIVERSITY Duncan Morrison - Manitoba Forage & Grasslands Association sustainable protein activitie and make adjustments Lee Anne Murphy - Protein Highway Henry Rowlands - Detox Project Denis Tremorin - Pulse Canada David Weins - Dairy Farmers of Manitoba Robin Young - Food Development Centre use to manage operations this impact map, and makes adjustments PERFORMANCE BASELINE / **BENCHMARKS** MMV20i Measure and track progress and impact of the intervention: reductions and storage are defined and tracked MMV05 MB establishes baseline data and benchmarks on which to measure improvements and performance against other jurisdictions SE10 Landscapes regionally have the ability to buffer-climatic events like floods and droughts better MMV21i Assess, modify and adopt core overarching SP metrics on which to measure - e.g., Climate Change ENVIRONMENT SE04i to SE09i Individually or a mix of adopt, adapt, or develop, and implement, and water / watershed integrity and services Longer-term outcome traditional experience and learnings in an integrated MMV22i Measure and track Functional area outcome FINANCE (FI) FI05 SP program and projects are resourced and funded sustainably as long as business value Intermediate outcome RESOURCING AND FUNDING for success and ,..... SUSTAINABILITY IPACT FINANCE VALUATIO INNOVATION Group of related types of *----[F] delivers more and technology applied to deliver a performance improvement. It is not just an idea, but an idea that **PARTNERSHIP** INNOVATION RESOURCES ATTRACTION t FI20 Valuation and/or trading of carbon reductions can be accounte F117 The financial community supports and invests more in SP businesses and initiatives FI18 Financing and investmen models are better suited to the needs of Indigenous SP businesses FI24 More green and social-impact bonds are adopted and utilized FI21 Voluntary carbon verification valuation and aggregation programs and platforms are utilized in MB RKET INTELLIGENCE IN20 More companies and other organizations are attracted o and engage with MB's SP research and innovation system IN14 SP approaches and benefits and benefits and showcased at scale at living labs IN15 More innovative potential solutions are uncovered, advanced and tested N21 Governmen incentives (i.e. tax incentives) encourage development and adoption of novel FI18i Develop and implementailored investment structures for Indigenous businesses FI19i Evaluate risk and develop mitigatio strategies as appropriate action and creates FI17i Adopt consistent, evidence-based approaches to market to the FINANCIAL community FI20i Implement MB carbon pricing through policy and regulatory tools FI15i Deploy funding and financial support programs for SP projects that are guided by Fl23i Value the protection and retention of natural land areas and Outcomes or squares below is proportional to the number of stakeholders who indicated in 7 DIFFERENTIA MB positions itself as a leader, outdoing other jurisdiction IN17i Establish priority criteria, ipdated periodicall and apply them to set an innovation agenda IN12i Build stronger Indigenous relationships focused on SP business opportunities example sizes WF09 Learning programs are responsive to current and future needs of the SP sector and labour force NF07 SP learne gain hands-on experience applying their classroom knowledge in real world 3P work settings BM18 The SP sector LEVERAGES CANADA'S positive agri-food and environme brands M26 MB capa to develop new SP marke (incl. for niche proteir products) is increased BM19 MB DIFFER: ENTIATES itself-based on its inherent strengths, actions underway and potential 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 & KNOWLEDGE and usable information, knowledge, and intellectual property to advance (6) the SP agenda PROPERTY e WF14i Reinforce the sustainability principles [5], and UN Sustainable Development [8] and Circular Economy goals [12] with the SP workforce WF15i Craft and market compelling narratives that SP sector employees and learners see themselves in WF11i Design and implement equitable learning and work opportunity approaches for Indigenous Peoples, genders, newcomers, and people with disabilities WF06i Design and offer SP-oriented Continuous Professional Development course curricula mrough professional association channels WF07i Design and implement or update and enhance co-operative direct experience based SP learning programs WF12i Design and implement learning programs for small Indigenous community cohorts centred around SP business opportunities BM25i Design and develop larket assessm resources and tools BM22i Create and share communication and educationa materials on MB's SP journey and story BM27i Partner with relevant domestic and internationa players that are at the BM29i Promote open sharing of leading sustainable agricultural practices with disabilities IK23 IP policy better recognize Indigenous rights and culture, and is equitable for Indigenous researchers and their communities ik(21 SP-related policy information and research knowledge needs are better known IK14 Business, industry; and other key stakeholders can utilize knowledge more easily to create relevant business IK13 The connectivity tween research and industry is better coordinated and leveraged K17 SP-related land resource management information and research knowledge needs are better known COLLAB SKILLS PIOS ENERGY FRASTRUCTURE Necessary energy and related services are available to support current and future the SP supply chain needs IK24i Strengthen MB's SP research-related intellectual development processes, protocols, structures and facilities IK14i Translate SP knowledge for consumption by business, industry, government, and other across the Plo7 TRANSPORT The current and future transportation and distribution needs can be accommodated appropriately IK15i to IK21i Respectively, design and undertak PIO3 NEEDS: SP-related infrastructure development needs are better known, and opportunities are ready to be acted on ("shovel-ready") T11 Contributo to the SP initiative feel connected and an integra part of larger SP sector transformation WT06 PRIORITIE: Comprehensive and coherent strategies, tactics, plans, and priorities guide collective efforts across the SP-sector WT13 More relationships are struck, and greater trust is built and accelerated T18 Contribute to the SP initiative have effective collaborative innovation skills ~-----PI05i Assess and communicate current and future energy needs, including operating costs, of the SP supply chain periodically and communicate current and future water needs, including operating costs, of the SP supply chain periodically current and future waste and recycling needs, including operating costs, of the SP supply chain periodically WT16i Affirm, communicate, and follow a shared set of principles for the SP WT17i Identify, recruit, and develop champions and leaders public good, or complex problems requiring collaboration integrate it in your plans, and deliver repeatedly respect and be true to the values equality, diversity, priorities with input throughout the SP sector locally to globally to identify and act on complementarities and synergies collaboration at all levels across the SP sector PI21 Innovative regulations and policies target reduction of waste approaches, processes and tools PI22 Cross-jurisdictional exchanges and equivalencie are more efficient and less costly PI24 Win-win 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 PI18 SP employer can have access to a larger pool of newcomer to choose from PI19 Communication between regulators and proponents of SP are effective PI15 Governmer policies encourage R&D in and early adoption of novel SP approaches PI17 By-product use and safety approval processes are progressive policy is strongly evidence-based and trustworthy ``` This Sustainable Protein Action Framework* has been developed as part o P124i Initiate a collaborative dialogue between SP managers and unions to explore any potential barriers encountered by the second seco PI23i Engage in policy dialogues to explore how procurement might support or help drive the SP agenda Manitoba's Sustainable PI18i Engage in a dialogue and advocate for more flexible immigration policies supportive of SP human Pl22i Initiate a dialogue toward better harmonization of cross-jurisdictional regulations and standards Pl17i Engage in forward-looking policy dialogues and advocate for by-product use and safety (e.g., for livestock feeding) PI21i Engage in dialogue and advocate for better policies supportive of waste reduction, with regulators early on in the idea and concept development process Protein Strategy. Consulting led by Sustainable Growth Co Outcome Mapping led by [I] For example on-farm manure use and recycling, sustainable R. Keith Jones & Associates

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and *Kumu* online system mapping software