

COMMERCIALIZATION CYCLE FOR NEW FOOD PRODUCT DEVELOPMENT





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INTRODUCTION

Perennia food scientists and research associates work with established and new agri-food, beverage and seafood businesses to create new products or improve current products or processes.

With our team and the facilities at the Perennia Innovation Centre, we can support product development and incubation, packaging and labelling to improve your bottom line and ensure your product is ready for market, with consistent quality and optimal shelf life.

Learn more about the commercialization cycle and how we can help you at Perennia through each step of the way.





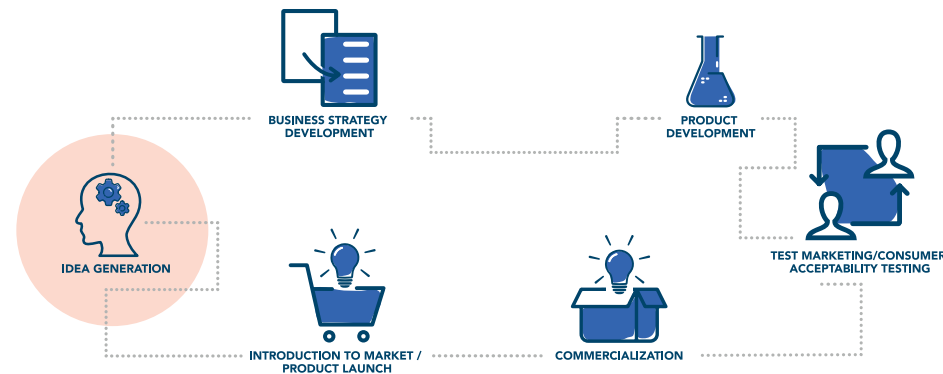
IDEA GENERATION, IDEA SCREENING AND CONCEPT DEVELOPMENT

Idea generation is the first step in the New Product Development Cycle. During this step, internal brainstorming will typically take place. Members of your company may be involved in these sessions, including the sales and marketing departments and the technical and operations staff. During the idea phase, it's vital to evaluate feedback from customers, review competitor products and observe different food trends.



At this stage, it's a good idea to perform a SWOT (strengths, weaknesses, opportunities, threats) analysis of existing and competing products. A SWOT analysis can help you evaluate constraints, including whether new equipment is needed, or if there are challenges with ingredients such as limited availability. The analysis can also identify opportunities like the option of working with co-manufacturing facilities. Conducting market research and connecting with experts in the industry will help in developing your new idea.

New idea concepts should be developed with the customer base in mind. For example, will it be targeted towards children or adults? Will there be a health focus or convenience? Test these ideas with the target market to understand if consumers are interested in buying the product.



HOW PERENNIA CAN HELP AT THIS STAGE

Perennia can assist your company by providing technical advice on the brainstorming stage. Our food scientists are up-to-date on advances in food processing and novel ingredients that can give an innovative approach to your idea generation. With exposure to many facets of the food industry, the crossover of ideas can be beneficial to help you follow up-to-date food trends and develop products that fill various niches in the market.

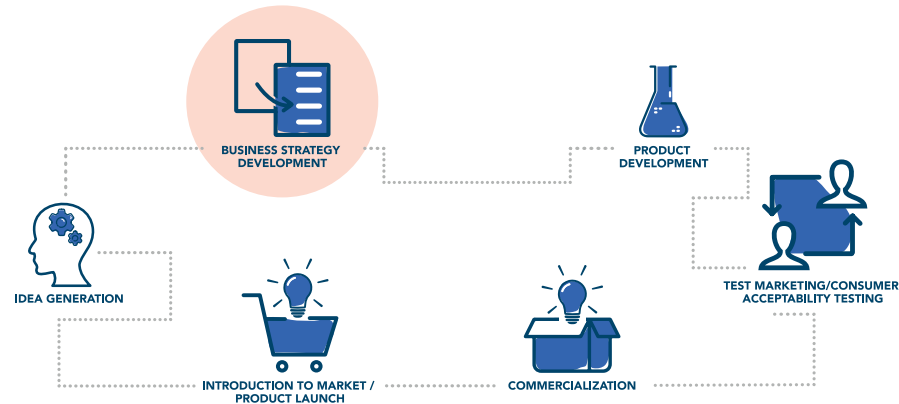
We can assist with idea generation using internal or external resources and have access to third party market researchers who can gather valuable information about your product concepts. Clients who qualify for the Agri-food Accelerator funding, will receive discounted 3rd party market research from one of our trusted partners.



BUSINESS STRATEGY DEVELOPMENT

An important part of the development of a product includes developing a business strategy. Marketing, branding, pricing and costs are essential parts of the strategy that should be considered. When creating a business plan, some key areas that you and your company may want to discuss are objectives, product description, competitive landscape,

target market description, SWOT, market trends, value proposition, promotional strategy, distribution and sales strategies. It's necessary to consider all elements of a business plan before starting a new project. Having a business plan in place will help to establish if the project is feasible and direct the next stages of the commercialization cycle.



HOW PERENNIA CAN HELP AT THIS STAGE

We work with many food ingredient companies, food processors, food packaging companies and equipment manufacturers to give you realistic estimates on costs of ingredients, types of products that can move forward and possible strategies to realize your concepts (ex: co-manufacturing, purchase of new equipment, line extensions). An estimation of the overall project cost and overall technical feasibility of

your project are important considerations that can be discussed with you upfront.

* If you are working on an agricultural project, the Nova Scotia Department of Agriculture can assist in developing a business plan.

Please visit below link.

<https://novascotia.ca/agri/programs-and-services/regional-services/>



PRODUCT DEVELOPMENT

During the product development stage, your product starts to become a reality. Here, you will translate concepts into optimized prototypes. These prototypes are refined based on consumer testing and key product attributes such as nutritional targets, ingredient thresholds, costs, sweetener sources etc.

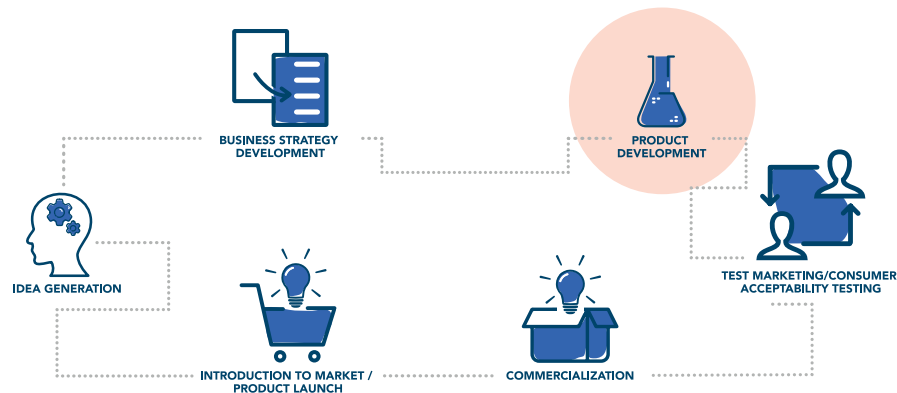
First, benchtop formulations are created. These formulations are further optimized based on the functionality of the ingredients and sensory attributes. At this point, all ingredients will be sourced from commercial suppliers and must comply with Canadian Food regulations. You will also start to introduce packaging materials and formats to the customer for their feedback and consideration.

Once an optimized prototype is chosen, the scale-up process will begin as you begin moving to pilot sized production to create sales and marketing survey



samples. Products at this stage should be made using representative packaging to initiate consumer feedback and shelf-life studies. You will also start to work with your partners to create labelling information such as Nutrition Facts Tables and ingredient declarations. If your product has health claims, these will need to be substantiated, and certification requirements will need to be completed. You will also want to consider pallet configurations, by mocking up secondary packaging and determining count per carton.

The product development stage will end with a final prototype creation and development of your product specifications, including all safety and regulatory requirements. At this point, your product is now ready to be shared with the consumer.



HOW PERENNIA CAN HELP AT THIS STAGE

Perennia staff are trained to understand food ingredients and the functionality of food products. Our food scientists can provide guidance or act as an extension of your research and development team to complete the product development stage for you. Our Food and Beverage Innovation Centre, located in Bible Hill, Nova Scotia, has benchtop equipment that simulates many food production processes and can be used to trial formulations and make benchtop prototypes.

Products are formulated to

customer requirements using food ingredient suppliers that provide technical data. Our food scientists perform internal sensory and functionality testing to optimize samples for presentation to our clients for their evaluation. Further refinements are made in collaboration with the clients to determine the formula that goes to the next step.

At the Innovation Centre, there is a pilot plant available with medium-scale food equipment to run pilot-scale trial runs. We also offer laboratory analysis services to determine chemical, physical and microbiological properties of your products.

For further scale-up and first productions, clients can move forward with their own processing capabilities or a co-manufacturer.

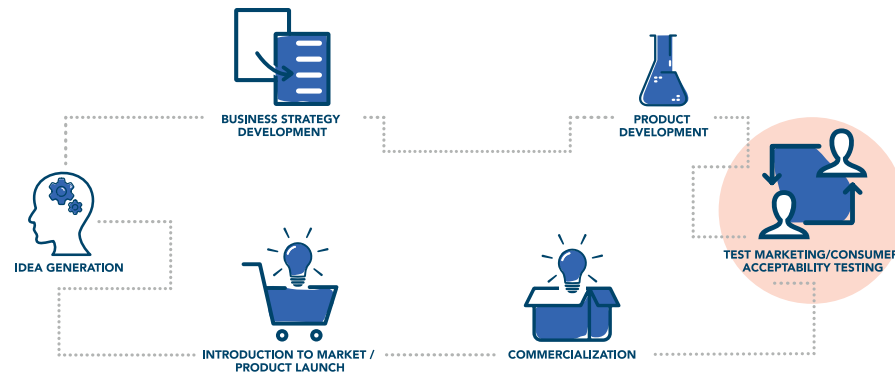
The food scientists at Perennia are knowledgeable about the processors in the province, the region and the country. They can act as a liaison to help you connect with co-manufacturers. If you do not currently have capabilities to manufacture your products or perhaps require partial processing (mixed ingredient blends, custom packaging, etc.), we can help. We have assisted food companies in getting their ideas, concepts and formulations to market in the best way possible.



TEST MARKETING/CONSUMER ACCEPTABILITY TESTING

At this time during the cycle, your target market will have their first chance to see your product. Before introducing the product, create a plan to obtain their feedback. Not only are you looking for feedback from the consumer, but you also want to work very closely with your production team. Follow up with operations staff to troubleshoot any potential production problems, perform quality assurance and any required lab testing to confirm specifications and be sure that your package is properly assessed and the shelf life is determined.

This is a crucial step between prototype samples and first production samples. Presenting prototype samples to your target market allows for feedback and adjustments before the final commitment to manufacturing. Minor adjustments can still be made during this step in recipe formulation, packaging design and marketing strategies and can save you time and money in the long run.



HOW PERENNIA CAN HELP AT THIS STAGE

Perennia's Food Scientists have the skills needed to provide support and guidance through this phase of the commercialization cycle. Perennia can perform in-house sensory evaluations as well as access larger certified sensory analysis laboratories for custom-designed sensory panels. Our food scientists can work with your operations staff to provide technical assistance with any processing and ingredient issues that arise in the scale-up to the production of your product.

Our highly trained staff can create Nutrition Facts Tables, allergen declarations, ensure compliance of ingredient declarations, and confirm that any health or ingredient claims are substantiated. Having all of these details in place will ensure that information on your packaging is compliant.

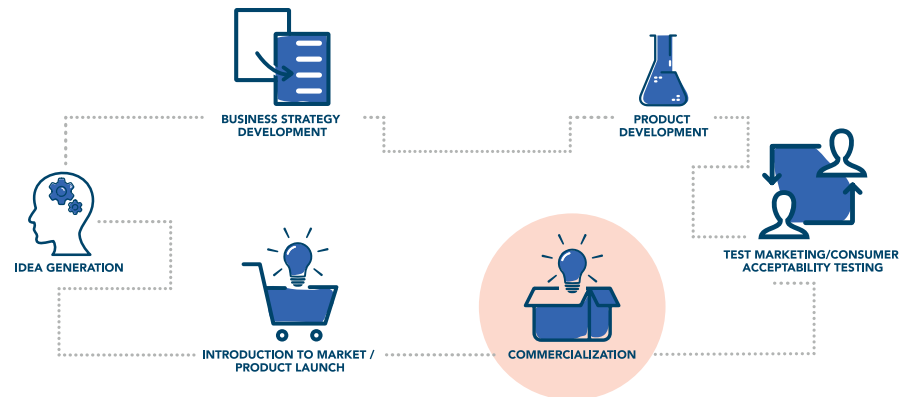
We can also perform shelf life testing in real-time and in some cases, accelerated time frames. Our clients will receive analytical results and confidence in the shelf life stated on their packaging.



COMMERCIALIZATION

After completing the test marketing stage, you may have received feedback from consumers, operations and from product testing which require you to make changes to your product or packaging. The results from your sensory evaluations, operational changes and sampling will be reflected in revised product specifications. At this time, you will also look to confirm both the artwork and configuration of your packaging. Consider if any of the product details have changed and whether you will need to make updates to the Nutrient Facts or ingredient statement.

Once the final adjustments are complete, the first production round can take place at your facility or your selected co-manufacturer.



HOW PERENNIA CAN HELP AT THIS STAGE

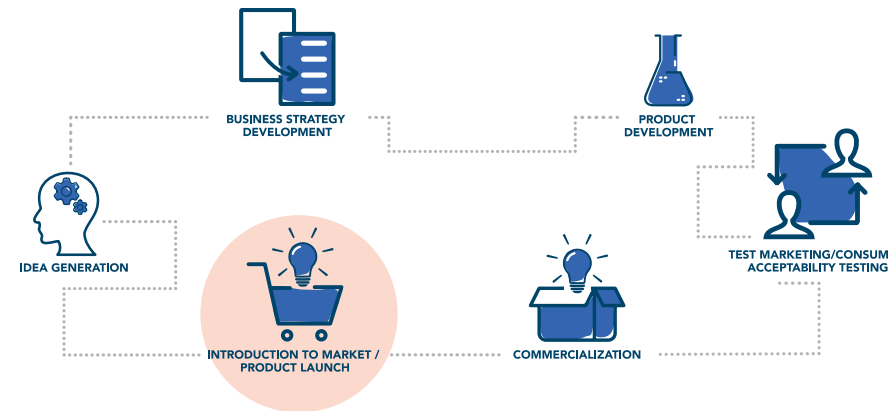
Perennia can provide technical assistance to determine if any changes made would result in required adjustments to product specifications, packaging details and any technical problems that may arise. We can develop the official Nutrition Facts Table to the current Canadian food regulations. We can also review your packaging and labels. During the first product run, we can continue to be an extension of your research and development team by being there first hand or providing guidance on technical difficulties.





INTRODUCTION TO MARKET/ PRODUCT LAUNCH

Congratulations! Your product is now ready for the final phase, introduction to the market. This phase is also the first stage of the product life cycle. As your product is brought into market, your team can continue to monitor and report on its' success. It's also important to have a plan in place as you receive feedback from consumers on the new product.



HOW PERENNIA CAN HELP AT THIS STAGE

The final launch and success of your products is important to us. We assist in problems that may arise, ingredient quality and availability issues, and we are dedicated to ensuring the success of your new products and to helping you launch any line extensions with new and exciting variations.



FUNDING

All of the steps in the commercialization cycle can be completed with the guidance of Perennia services. Funding may be available to support you through the steps of the commercialization cycle, please visit our website for more information:

www.perennia.ca/product-development/programs/

PRODUCT DEVELOPMENT RESOURCES

Our food scientists develop informational fact sheets, videos, and other tools to aid Nova Scotia based agri-food and beverage processors through the product development process. Check out our resources page for additional information that can help you through each stage of the cycle.

www.perennia.ca/product-development/resources/

CONTACT INFORMATION

For more information and to get in contact with one of our innovation team members, please see below contact information:

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