

PRELIMINARY CLINICAL NUTRITION WHITE PAPER

**Resistant Starch Based Nutrition for Senior Wellness & Institutional Care
A Functional Nutrition & Population Health Framework for Long-Term Care and
Institutional Foodservice**

Prepared By

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*"We believe culturally informed functional nutrition can play a meaningful role in modern
preventative wellness and senior care support."*

Executive Summary

Seniors Farm Ltd. is developing culturally informed functional nutrition products designed to support digestive wellness, balanced nutrition, and senior-friendly meal solutions within institutional healthcare and long-term care environments. Our flagship product, Dina's Jamaican Green Banana Porridge Mix, utilizes green banana flour naturally rich in Resistant Starch Type 2 (RS2), alongside fibre-rich ingredients including oats and flaxseed. This preliminary white paper outlines the nutritional rationale behind resistant starch integration, institutional nutrition challenges within aging populations, operational considerations for long-term care meal systems, and the potential role of culturally inclusive functional foods in preventative wellness strategies.

1. Clinical & Population Health Background

Digestive dysfunction, bowel irregularity, appetite instability, and metabolic health concerns remain common within aging populations and institutional care environments. Residents in long-term care settings may experience reduced dietary fibre intake, decreased gastrointestinal motility, medication-related digestive disruption, hydration challenges, and inconsistent appetite patterns. Healthcare systems continue exploring preventative nutrition strategies that support both resident wellness and operational sustainability.

2. Institutional Nutrition Challenges

Many institutional breakfast systems continue to rely heavily on refined starches and rapidly digestible carbohydrate products that may contribute to reduced satiety, inconsistent energy response, limited fibre intake, and increased dependence on supportive digestive care measures. There is growing interest in incorporating fibre-rich foods, functional carbohydrates, culturally inclusive meal options, and comfort-focused nutrition solutions into institutional meal systems.

3. Resistant Starch & Functional Nutrition

Dina's Jamaican Green Banana Porridge Mix utilizes green banana flour as its primary carbohydrate source. Green banana flour naturally contains Resistant Starch Type 2 (RS2), a form of starch that resists digestion in the small intestine and may undergo fermentation within the colon. Current scientific literature continues to study resistant starch for its potential role in digestive wellness, microbiome activity, satiety, and balanced glucose response.

4. Product Formulation Overview

Dina's Jamaican Green Banana Porridge Mix is formulated using green banana flour, oats, flaxseed, unsweetened coconut, cinnamon, nutmeg, and allspice. The formulation was designed with a focus on clean-label ingredients, comforting texture, digestive fibre support, operational simplicity, and institutional preparation compatibility.

5. Ongoing Research & Scientific Evaluation

Seniors Farm Ltd. is currently collaborating with Dr. Mario M. Martinez, Associate Professor of Food Science, to further evaluate the resistant starch and fibre characteristics of our green banana flour products. Current analysis includes resistant starch evaluation, soluble and insoluble fibre analysis, structural ingredient assessment, and batch consistency review.

6. Food Safety Validation

Food safety analysis has been conducted through Public Health Ontario Laboratory under the direction of the Thunder Bay District Health Unit. Current findings confirmed: • Salmonella spp. — NOT DETECTED

- Escherichia coli — NOT DETECTED

Water activity levels were measured approximately between 0.07 Aw and 0.19 Aw, supporting shelf stability and dry product safety characteristics.

7. Pioneer Ridge Institutional Pilot

A preliminary institutional pilot and sensory evaluation was conducted at Pioneer Ridge Long-Term Care in Thunder Bay, Ontario. Key observations included: • Positive resident acceptance

- Strong steam-table holding performance
- Operational preparation feasibility
- Favourable texture consistency During taste testing, 66% of participating residents requested the porridge be added to the regular breakfast rotation.

8. Institutional & Operational Considerations

The product is available in both retail pouch formats and 2 kg foodservice packaging formats designed for institutional kitchens. Operational advantages include simplified preparation, scalable batch consistency, customizable sweetness, and texture adaptability for modified meal programs.

9. Future Research Direction

Seniors Farm Ltd. may pursue future observational nutrition studies exploring:

- Bowel regularity trends
- Meal acceptance
- Appetite response
- Operational efficiency

Wellness-focused institutional nutrition outcomes Further study would support broader understanding of culturally relevant functional nutrition within aging populations.

Conclusion

Seniors Farm believes culturally informed functional foods can play a meaningful role in modern wellness-focused institutional nutrition systems. By combining traditional Jamaican food heritage, clean-label formulation, resistant starch research, and institutional practicality, Seniors Farm aims to contribute to more inclusive and evidence-informed meal solutions for Canadian healthcare and senior living environments.

CONTACT INFORMATION

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