Human Health & Well-Being
* Nutrition * Agriculture
* Human Performance

Naturally!
Cutting-edge research and innovation discovering pathways to human health & well-being through nutrition & exercise

- City of Kannapolis
  - Cabarrus County
  - Rowan County
  - RCCC
  - Cabarrus Health Alliance

- Legislature
  - NCDA&CS
    - Dept. of Commerce
    - UNC GA

- NCRC Entrepreneurial Services
  - NC Biotech Center
    - EDPNC
    - CED
  - Cabarrus ED Council
  - Rowan ED Council

- UNC Chapel Hill
- NC State
- NC A&T
- Appalachian State
- UNC Greensboro
- NC Central
- UNC Charlotte
- Duke University
- DHMRI
- Dole Food Company
- General Mills
- Sensory Spectrum
- Ei Solutions/EnDev
- Carolinas HealthCare System
- DataChambers

Copyright – North Carolina Research Campus, Nov. 2016
NCRC Research Partners

Appalachian State University  Nutrition and exercise immunology
Duke University  Longitudinal health, MURDOCK Study
NC A&T State University  Food safety, functional foods, nutraceuticals
NC Central University  Metabolomic and nutrigenomic approaches to prevent and treat chronic disease
NC State University  Health-enhancing properties for improved crops and functional foods
UNC Chapel Hill  Targeted nutrition and personalized medicine
UNC Charlotte  Bioinformatics
UNC Greensboro  Alcohol-induced fatty liver disease, lipodomics, Type 1 diabetes
David H Murdock Research Research Institute  Genomics, Metabolomics, Proteomics NMR and microscopy
Pathways to human health & disease avoidance through nutrition, lifestyle & exercise
The potential to transform lives and communities through development and application of food technology
From Economic Feasibility to Partnerships and Action

2014

NC Economic Feasibility Study
38,000 jobs created
$10.3 billion annually

2015 - 2016

FM Task Force Recommendations
NCGA Support for EDPNC Position

Partnership Development with Industry, Government, Academia
**KEY RECOMMENDATIONS FROM FM TASKFORCE**

- NC Food Manufacturing Leadership Team
- Food Manufacturing Industry Advisory Group
- Investment in Statewide Leadership Positions
  - Position 1: Science, Technology & Policy Director (NCSU)
  - Position 2: Business Development Manager for FMI (EDPNC)
  - Position 3: Marketing Support for FMI (NCDA&CS)
- Creation of an innovation center that would enable development of entrepreneurship and attract broader food manufacturing industry to NC
From Economic Feasibility to Partnerships and Action

2014
NC Economic Feasibility Study
38,000 jobs created
$10.3 billion annually

2015 - 2016
FM Task Force Recommendations
NCGA Support for EDPNC Position

2017
NCGA Support for Food Innovation Center
Food Processing Innovation Center Committee

Partnership Development with Industry, Government, Academia
A Partnership At Work

Agriculture and Food Research & Innovation

Economic Development Coordination

Food Entrepreneur Development

Marketing

NC Food PIC Director & Staff

Communications

Industry Recruitment

Buyer-Grower Engagement

Creating Jobs

Growing Economies

Manufacturing Rural Opportunities
• Provide state of the art facilities to promote new \textit{plant-based product} and technology development, validation and commercialization

• Engage in \textit{applied research and development} that translates to consumers and markets

• Deliver unique and relevant \textit{plant science and food science training} to promote workforce development, entrepreneurial growth and industry engagement
Food PIC Concept: NCRC Core Laboratory

~15,000 sqf on 1st floor for NCRC Core Laboratory
Private Entrance
Access to Loading Dock
Access to existing shower/locker room
Flexibility for build out
BASIC CONCEPT: NCRC CORE LABORATORY SPACE

Space 1
Product Develop Lab

Space 2
Pilot Plant Prep Space

Space 3
Ingredient Product Storage & Workshop

Space 4
Main Office Meeting

Quality Control Lab

Client work space

Prep Space

GMP Processing Space

Extraction & Drying Experimental Space

Throughway/Viewing
PROPOSED FOOD PIC CAPABILITIES

Product Development & QC Laboratory

- Product Ideation and Analytical Space

http://www.preparedfoods.com/
PROPOSED FOOD PIC CAPABILITIES

- **Plant Food Fruit, Vegetable and Cereal Processing**
  - Prepping, Juicing, Batching
  - Grain milling and Extrusion
  - Continuous Evaporation
  - Vacuum and Spray Drying

- **Thermal and Non-Thermal Processing**
  - Retort, HTST thermal processing systems
  - Continuous Microwave
  - UV – Sterilization
  - Multiple fillers

- **Plant Extraction & Fractionation**
  - Expeller/Extrusion
  - Subcritical systems
  - Ultra/Nanofiltration
  - Column technologies
PROPOSED FOOD PIC ACTIVITIES

Access/Rental
- Facilities
- Equipment
- Tech Services

Applied R&D
- Industry
- Federal
- State
- Commodity

Technical Training
- Technical Training
- Workshops
- Short courses

Industry Engagement
- Advisory Council
- Technical Meetings
- Technical Marketing
Moving NC Food PIC Forward

October 2017:
  – October 30 – Approval of business plan and submission to GA

December 2017:
  – Funds released by the state of NC
  – Communications Plan Development Initiated
  – Marketing Plan Initiated

Early/Mid 2018:
  – Lease finalization
  – Begin design and construction of NC Food PIC
  – Search initiated for
    • NC Food PIC Director and staff
    • Faculty Member – Food Process Engineer
  - Refinement of FPIC vision and Mission with Stakeholder

Early/Mid 2019:
  – Construction completed
  – NC Food PIC opens
Thank you!
Empowering human health through nutrition. Naturally!

Reducing food allergens with plant-based compounds

Formulating energy beverages from North Carolina crops

Producing medical foods that use a person’s genetic and metabolic uniqueness to restore health.
Our Evolving Ecosystem

- Buildings
- Knowledge
- State Allies
- Funding
- Manufacturing
- Other Applications