

# **BOTANICAL INNOVATIONS**

## **FLAVOURS, FRAGRANCES AND INGREDIENTS**

**COLD PRESSED & INFUSED OILS, ESSENTIAL OILS, PLANT EXTRACTS,  
FERMENTATIONS, FRUIT & FIBRE POWDER**



**[www.botanicalinnovations.com.au](http://www.botanicalinnovations.com.au)**

# FLAVOURS, FRAGRANCES & INGREDIENTS



Botanical Innovations creates all natural products with a focus on the maximum concentration of phytonutrients to ensure the optimum health benefits from all our products.

## Core Products

- Essential Oils
- Plant Extracts
- Fermented Extracts
- Vinegars
- Fruit Powders
- Cold Pressed Oils



# QUALITY, INNOVATION, SERVICE RESEARCH & DEVELOPMENT VALUE ADDING WASTE

Botanical Innovations formed 2014 with a the philosophy of adding value to agricultural, horticultural and processing waste streams coupled with a zero waste policy from our plant.

For example from apple processing waste and whole apple seconds we are able to manufacture our proprietary apple products which include the award winning Apple Cider Vinegar Powder and Apple Sweetener, Apple Extracts, Apple Seed Oil and Apple Fibre Powder.

Our facilities are HACCP an GMP certified and we are continuously Improving our systems, processes, products and services

We invest heavily in research and development with many of our products taking 2-4 years to commercialise.

We also offer contract manufacturing services from new product development, proof of concept through to commercialisation.





# BACK TO THE FUTURE: FERMENTATION & GUT HEALTH



Today's discussion is about Fermentation and Gut Health.

Covering 3 areas.

1. A potted history of fermented foods and drinks in traditional diets
2. How fermentation increases the phytonutrients in botanical extract Ingredients.
3. Where to from here



# BACK TO THE FUTURE: FERMENTATION & GUT HEALTH

## A POTTED HISTORY OF FERMENTED FOODS & DRINKS IN TRADITIONAL DIETS



Australian Aboriginal and African Cultures oldest in the world.

The current chronic health problems and lifespans up to 20 years less than Western counterparts facing these communities are are lifestyle and diet related.

Traditional diets consisted of little fat, natural sugars and traditional fermentations.

Botanical Innovations is conducting research into the fermented Australian Indigenous fermented Foods and beverages from this database of information we hope to compare this other indigenous fermentations to identify key phytonutrients in traditional fermented foods for commercial applications.

Traditional Australian Indigenous fermentations include:

- The nectar of flours such as the Banksia
- Extracts of pandanus nuts in water
- Cider gum
- Palm tree



# BACK TO THE FUTURE: FERMENTATION & GUT HEALTH

## A POTTED HISTORY OF FERMENTED FOODS & DRINKS IN TRADITIONAL DIETS



Africa has an age old history of production of traditional fermented foods and is perhaps the continent with the richest variety of lactic acid fermented foods

African cultural arena is associated with a great diversity of fermented foods, these are usually based on vegetable protein, cereal or starchy root fermentations.

Staple fermented foods and beverages include

- Busaa from Maize
- Gari from Cassava
- Lafun from Cassava
- Tape from Cassava and Rice
- Poli from the Taro Plant
- Ogi and Pito from Sorghum
- Padawa from African Locust Bean
- Ogiri from Bean, Melon and Sesame Seeds

# BACK TO THE FUTURE: FERMENTATION & GUT HEALTH

## A POTTED HISTORY OF FERMENTED FOODS & DRINKS IN TRADITIONAL DIETS



China and South East Asia have a long tradition of fermented foods and beverages including the consumption of vinegar drinks.

Common fermentations include a of alcoholic drinks, to noodles, snack foods, dumplings and flavourings.

The most common base is rice and soybeans.

Botanical Innovations is compiling a database of fermentations for flavourings and ingredients and looking at the traditional fermentation methodology and bacteria in order to develop new and innovative products that meet the todays consumers needs and expectations in terms of safety, quality and consistency.



# BACK TO THE FUTURE: FERMENTATION & GUT HEALTH

## HOW FERMENTATION INCREASES THE PHYTONUTRIENTS IN BOTANICAL EXTRACT INGREDIENTS



Botanical Innovations has created a unique range of Fermented Botanical Extracts and the award winning Apple Cider Vinegar Powder. A natural preservative and prebiotic.

The proprietary fermentation process has meant that our extracts retain a high level of phenolic content and the active phytonutrient extracted while remaining shelf stable for longer periods of time without added preservatives. This makes them ideal ingredients for a range of functional foods and beverages. Our Fermented Botanical Extracts have an acidity level of 2-3%.

Botanical Innovations Fermented Extracts include

- Fermented Grape Seed Extract
- Fermented Grape Skin Extract
- Fermented Apple Peel Extract
- Fermented Papaya Extract
- Fermented Pineapple Peel Extract



# BACK TO THE FUTURE: FERMENTATION & GUT HEALTH

## HOW FERMENTATION INCREASES THE PHYTONUTRIENTS IN BOTANICAL EXTRACT INGREDIENTS

### APPLE CIDER VINEGAR POWDER PREBIOTIC & NATURAL PRESERVATIVE



Contains "Mother"  
Protection against

- mould
- fungal growth and
- microbial contamination
- Improves taste

Clean Label

No impact on the appearance

- Baked goods
- Bread
- Biscuits
- Snacks
- Beverages
- Snacks
- Baked Foods

Active Functional Ingredient for

- Condiments
- Sauces
- Powders
- Spice
- Flavouring
- Beverages



# BACK TO THE FUTURE: FERMENTATION & GUT HEALTH

## WHERE TO FROM HERE



The second stage of our research will examine the digestibility of the fermented ingredients. Examining how fermentation improves the digestibility of the key phytonutrients extracted during the botanical extraction and fermentation process.

We will be testing the potency of antioxidant activity that occurs as result of the concentration of active phytonutrients in indigenous botanical extracts which are further stabilization via fermentation.

There is also evidence to suggest our extraction and fermentation process will increase the potency of the vitamins present in the extract which will further add to ingredients functionality.

The prebiotic and probiotic effects supporting the balance of gut microbiota are also expected to increase with regular consumption.

A key hurdle to address in the commercialization of these fermented extract ingredients is consistency and food safety.

A standardized method of fermentation is required to ensure the consistency and food safety. Whilst the research revolves are the production of wild fermentation this is not a practical solution for commercial production.



# DIETARY FIBRE

## APPLE PEEL & GRAPE SEED POWDER



### Recommended Daily Dietary Fibre Intake

|                    |     |
|--------------------|-----|
| Children           | 20g |
| Men Under 50 years | 30g |
| Men Over 50 year   | 40g |
| Women Under 50     | 20g |
| Women Over 50      | 25g |

APPLE PEEL POWDER 35% DIETARY FIBER

35g Per 100g

GRAPE SEED POWDER 45% DIETARY FIBRE

45g Per 100g

### Health Benefits

Weight Management

Increases feeling of fullness

Helps reduce cravings for food

Provides energy

Promotes regularity

Improves intestinal movement

Helps colon health

# APPLE EXTRACT SWEETENER

## WHOLE AUSTRALIA APPLES CLEAN LABEL



Bulk sweetener  
100% natural sugars FRUCTOSE,  
GLUCOSE, SUCROSE  
Complements other flavours  
Flavour enhancer food and beverage  
applications  
Masks and reduces bitterness  
chocolate and coffee  
Adds weight and volume  
Impacts upon mouth feel and texture  
Water soluble  
Kept in solution between  
0-140 degrees celsius  
Lowers freezing point in ice creams  
and helps prevent ice crystals



# **BOTANICAL FLAVOURS**

## **WATER SOLUBLE EXTRACTS & ESSENTIAL OILS**





# BESPOKE INFUSED OILS THAT MATURE



BASIL OIL *Ocimum Basilicum* Oil

LEMONGRASS AND MINT OIL *Cymbopogon and Mentha* Oil

ROSEMARY OIL *Rosmarinus Officinalis* Oil

IMMORTELE OIL *Helichrysum Italicum* (Curry Plant) Oil

PERSIAN CATMINT OIL *Nepeta Cataria Mussinii*

LEMONGRASS OIL *Cymbopogon* Oil

MIMOSA OIL *Acacia Dealbata* Oil

THYME OIL *Thymus Vulgaris* Oil

ST JOHN'S WORT OIL *Hypericum Perforatum* Oil



# BOTANICAL INNOVATIONS

## FLAVOURS, FRAGRANCES AND INGREDIENTS

COLD PRESSED & INFUSED OILS, ESSENTIAL OILS, PLANT EXTRACTS,  
FERMENTATIONS, FRUIT & FIBRE POWDER



The Botanical Innovations product range includes, Plant Extracts, Fermented Plant Extracts, Cold Pressed Seed Oils, Fermented Fruit Extracts and Vinegar, Fruit Powders & Essential Oils.

By unlocking nature's secrets Botanical Innovations has created new classes of flavours, fragrances and ingredients that contain phenolic rich phyto nutrients the natural chemical compounds produced by plants from photosynthesis.

Our database of scientific literature provides our customers with access to the latest research and applications for our unique range of products.



# BOTANICAL INNOVATIONS

## FLAVOURS, FRAGRANCES AND INGREDIENTS

COLD PRESSED & INFUSED OILS, ESSENTIAL OILS, PLANT EXTRACTS,  
FERMENTATIONS, FRUIT & FIBRE POWDER



Email: [KerryFerguson@botanicalinnovations.com.au](mailto:KerryFerguson@botanicalinnovations.com.au)  
Telephone: +61488196527

[www.botanicalinnovations.com.au](http://www.botanicalinnovations.com.au)