

FLAVOUR BROCHURE



Innovation naturally

OUR HISTORY

Since the company was established in 2010, the first decade was spent growing and developing our team, infrastructure and technologies.

As the organisation moves from a small to medium sized operation, a growing sense of environmental and community responsibility opens excellent opportunities to help support and manage our impact on both – including the target of a neutral carbon footprint and a dedicated community charity support programme.

Our second decade will focus upon achieving the following visions:

- To grow as a key supplier of colours, flavours and extracts in the Global market-place.
- Achieve recognition as an innovator, the solution to the problem.
- Gain the status of associate within the supply chain, respected by clients and suppliers alike.

Innovation naturally

2010
APRIL

Plant-Ex Ingredients Ltd was established as a one-man business in a 2500 sq ft facility outside of Bristol

2011
MAY

First BRC Certification achieved, team expanded to three people

2012
JUNE

Site expansion to 5000 sq ft, team expanded to ten people



OUR GLOBAL DISTRIBUTION



2013
SEPT

Site expansion
to 7500 sq ft

2014
OCT

Additional
11,000 sq ft
warehouse,
Sales Office
opened in
Valencia Spain

2018
MAR

Dedicated
8,500ft spray
drying factory
opened in UK

2018
JUNE

Acquisition of
RD Campbell
& Co, London

2019
APRIL

Joint Venture
announced,
Plant-Ex Gida,
Turkey

2021
MARCH

Acquisition of
additional
facility in
Avonmouth to
house further
expansion

2021
APRIL

Plant-Ex
Polska was
established in
Poland as
European
distribution hub
and sales office

2023
MARCH

Plant-Ex
Ingredients
LLC
established in
NJ, USA

OUR DIVISIONS

A World of Natural Flavours, Colours & Extracts



TOP NOTE
FLAVOURS

Sweet

Vanillas
Chocolates
Caramels
Honey
Biscuits &
Desserts

Fruit

Citrus
Green
Tropical
Berry

Diverse

Tobacco

Alcohol

Beers
Wines
Spirits

Herbs

Garden
Mints
African

Savoury

Chicken
Beef
Pork
Smoke

Vegetables

Red Veg
Root Veg
Green Veg



NATURAL
COLOURS

Yellow

Curcumin
Lutein
Safflower

Orange

Paprika
Annatto
Carotenes

Red

Red Cabbage
Red Beet
Radish
Sweet Potato
Carmine

Purple

Grape skin
Elderberry
Purple Carrot

Blue

Spirulina

Green

Copper Chlorophyll
Chlorophyll
Spinach

Brown

Burnt Sugar Syrup
Caramels



NATURAL
EXTRACTS

Vinegar Powder

Spirit Vinegar
Malt Vinegar
Balsamic Vinegar
White Wine Vinegar
Red Wine Vinegar
Apple Cider Vinegar
Sherry Vinegar
Acetic Acid

Vegetable Powder

Carrot
Leek
Onion
Beetroot
Cabbage

Oleoresins

Paprika
Turmeric
Black Pepper
Capsicum
Ginger
Coriander

Fruit Powder

Citrus
Berries
Tropical
Tree Fruits

Emulsions

Water Dispersible
Oils & Oleoresins

Encapsulates

Oil Powder
Oleoresin Powder

Essential Oils

Flowery
Citrus
Spicy
Woody
Herbal



FOOD PROTECTION
SYSTEMS

Natural Anti-Microbials

Natural Anti-Oxidants

Texturising Agents

Natural Yield & Taste Enhancers

OUR MANUFACTURING EXPERTISE

Independent production sites for liquid and powder processing means focused teams specialising in delivering high quality products, allowing them to further develop their expertise. In-house spray drying capabilities from laboratory through to bulk production means that batch traceability is ensured and exact quality can be maintained throughout batches.

Plant-Ex operates from BRC accredited sites in the UK, Turkey and Poland. We specialise in the development and manufacture of natural colours, flavours and extracts.

Thanks to our quality controls and integrated operating systems throughout the production, we guarantee the consumer the highest quality product, free from allergens and other contaminating agents.

Black
Carbon Black

White
Calcium Carbonate

Alcohol
Wines
Spirits
Beers
Ciders

Diverse
Honey Powder
Sugar Powder (Molasses Syrup)
Soy Sauce Powder
Worcester Sauce Powder

Innovation **naturally**



WHAT IS A FLAVOUR?

A flavour is a mixture of aroma-chemical molecules that is used within a food product to provide a certain taste. Our flavourists combine their years of knowledge with the latest technical equipment to develop fresh and innovative new formulations.

A common mistake people make is thinking that natural flavours always come from the named source. In reality, this isn't always the case and refers to an extract instead. Unless the flavour is a 95/5 or WONF flavour, none of the 'named' product is within the flavour.

Features and Benefits:

- Natural Flavours
- High impact, low dosage
- Lower inclusion costs
- Vegan/Vegetarian suitable
- Allergen free
- Good stability
- Competitive pricing

Top Notes:

First notes are tasted.
E.g. Citrus Fruits

Heart Notes:

Characteristic of the flavour itself. These are the main notes.
E.g. Floral, Green, Fruity

Base Notes:

Gives body to the flavour and these notes last the longest.
E.g. Wooded

These are the
aroma-chemicals
used to make a
flavour.



FLAVOUR CLASSIFICATIONS

When you add a flavour to your product, they have to be declared on the back of pack (BOP). How we declare these flavours, is dependent on the flavour itself.
Please see below the different flavour classifications:

Natural Flavour

Extracts and/or naturally occurring chemicals obtained by a natural process only can be used.

Declared on BOP as 'Natural Flavouring'.

Artificial Flavour

Extracts and/or all food safe chemically defined substance can be used.

Declared on BOP as 'Flavouring'.

FTNF (from the named fruit)

FTNF flavours are extracts that are 100% derived from the named source material without additional flavourings added; essentially, an FTNF is an extract.

Declared on BOP as "X Extract", or "Strawberry Extract"

Natural Flavour (95/5)

In a 95/5 flavouring, at least 95% of the flavour components must originate from the named source material, with 5% originating from other natural sources/flavourings and used for the purpose of rounding off or standardising to ensure a consistent flavour profile.

Declared on BOP as "Natural X Flavouring" for example, "Natural Strawberry Flavouring".

Natural Flavour WONF (with other natural flavourings)

< 95% of the flavour is derived from the named source, with the rest being made up from other natural flavouring substances or preparations.

Declared on BOP as "Natural X Flavouring with other natural flavouring".



FLAVOUR DEVELOPMENT LAB

Plant-Ex has a dedicated team of flavourists with over 30 years of experience and bursting with creativity. At the forefront of the food and beverage industry, we supply a vast range of flavours in many different formats so they are suited for your specific application. We are continually expanding our portfolio to keep abreast of latest trends, helping customers drive their new product development.

Our flavour laboratory can help to:



Remove unwanted ingredients, e.g. palm, preservatives

Match an existing flavour

Create new bespoke products for your desired taste

Switch from artificial to natural flavours

And most importantly our dynamic team has a “Can do” attitude!

At Plant-Ex we love a challenge and are here to help you turn your innovative ideas to life, by collaborating closely with you throughout the entire process from start to finish.

FLAVOUR MANUFACTURING

Plant-Ex strength in flavours lies within the combination of our dynamic team of flavourists, their laboratory and equipment, and with our Operations team who have the necessary in-house capabilities to ensure that flavours are produced with optimum consistency.

Plant-Ex are one of the few flavour houses that are in control from start to finish. Starting from creation in the flavour lab, to scale up production, right through to packing off our on-site dryer's and dispatching the products. This ensures complete batch traceability every step of the way.

Technologies & Test Methods:

- GCMS
- FTIR
- Tasting Panels
- Triangle Testing

***There is more information on these processes on the next couple of pages.**

Spray-Dried Powders

Our spray-dried powders consist of a carrier that encapsulates the flavour compounds for better stability and shelf-life.



Liquid Compounds

Our liquid compounds are comprised of water-soluble and oil-soluble liquids. These liquids are manufactured using a carrier which is selected based on the final application.



Emulsions

Emulsions contain fine particle suspensions of oil derived flavours in an water-soluble solution.



FLAVOUR MATCHING

Matching is a free of charge service offered by Plant-Ex and is often required where a customer needs a lower-cost alternative to existing supply or a second alternative for supply chain security.

Features and Benefits:

- Competitive prices
- Smaller MOQs
- Expert flavourists
- Application testing

Step 1:

The customer submits a sample and a brief is raised.



Step 2:

The sample gets broken down using our GCMS and a rough recipe is made.



Step 3:

The flavourist runs trials in order to get as close a match as possible. The match is then run on our FTIR.



Step 4:

A triangle test is run, alongside a tasting panel. A sample is then submitted to the customer for approval.



FLAVOUR MATCHING

In more detail

Firstly, a sample is sent to us for analysis work, alongside a specification and a rough target price. Internally a brief is raised, which gets allocated to one Plant-Ex's expert flavourists.

The sample is assessed and put through our Gas Chromatograph-Mass Spectrometer (GCMS) to analyse it. Inside the GCMS, there is a column which 'pulls apart' the flavour and breaks it down into what aroma chemicals are present. This gives us an indication of what the flavour consists of and an idea of ingredients' ratios.

A flavour match can take from 1 to 30 trials, depending on how complex it is.

The target sample gets run on our Fourier Transform Infrared Spectrophotometer (FTIR) against the trial. At Plant-Ex we consider everything above 970/1000 to be a match, as it means the difference is so minor that organoleptically, it cannot be picked up.

After all necessary trials are run, the flavourists will taste the target sample and run a triangle test. Here, comments are made by the tasting panel on how the match could be closer from an organoleptic point of view, and then make the necessary changes.

Once an exact match has been created, a sample is sent to the customer for approval.



FRUIT FLAVOURS

+44 (0)117 982 8464 • www.plant-ex.com

Our selection of fruit flavours is bursting with juicy berries, tart fruits and exotic flavours. There is something to suit all tastes in this range. These delicate fruits can be combined with flavours from our herb and brown flavour portfolios to create a unique flavour blend.

Our range includes, but is not limited to:

Citrus

Our Citrus fruit flavours are perfect in applications where you are after an refreshing tang, with that citrusy after taste.

Lemon
Citrus, Sweet,



Lime
Fresh, Juicy



Orange
Tangy, Tart



Grapefruit
Zesty, Juicy



Tropical

Our Tropical fruit flavours will transport you to paradise. Great for a wide range of dairy, beverage and confectionery applications.

Passionfruit
Bright, Fruity



Mango
Juicy, Tropical



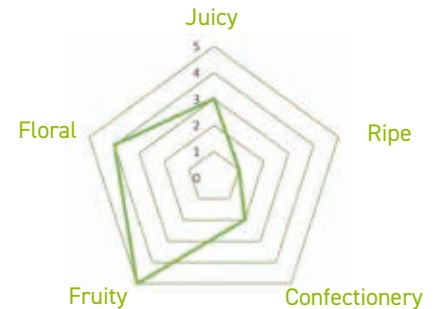
Pineapple
Sweet, Vibrant



Kiwi
Sweet, Sour



Mango Flavour Profiles



Berry

We produce a variety of berry fruit flavours with different profiles; from confectionery to jammy, and everything in between.

Strawberry
Fruity, Green



Raspberry
Sweet, Rose



Blackberry
Succulent, Tart



Blackcurrant
Berry, Tart



BROWN FLAVOURS

+44 (0)117 982 8464 • www.plant-ex.com

Indulge in nostalgia with our classic brown flavours. This range features some of our favourites for use in various sweet and savoury applications. They are versatile and can add an extra dimension of flavour to your products.

Our range includes, but is not limited to:

Milk Chocolate
Creamy, Vanilla



Vanilla
Buttery, Beany



Caramel
Creamy, Sweet



Coffee
Beany, Strong



Chocolate Hazelnut
Roasted, Cocoa



Cookies & Cream
Cocoa, Luxurious



White Chocolate
Decadent, Mellow



Biscuits
Buttery, Vanilla



Fudge
Creamy, Soft



Vanilla Flavour Profiles



We have a huge variety of profiles for all of the brown flavours mentioned above. Speak to our sales team for more information.

HERB & SPICE FLAVOURS

+44 (0)117 982 8464 • www.plant-ex.com

Our herb flavours are rich with earthy, strong, and traditional notes making them highly recommended for savoury applications. Whether you're making meat rubs or sauces, herb flavours are a great addition to your product.

Our range includes, but is not limited to:

Garden

Our Garden herb flavours provide a real freshness to your product. Perfect for salads and dressings, these flavours can also be a great addition to savoury snacks.

Spice

Shake up your range with our spice flavours, providing a wow factor. Popular in savoury snacks, sauces, marinades, and rubs.

Mint

Our Minty flavours provide a refreshing and uplifting addition to your product. Perfect for use in beverages and confectionery.

Basil Flavour Profiles



Rosemary
Piney, Woody



Coriander
Fresh, Earthy



Cajun
Spicy, Peppery



Cinnamon
Sweet, Woody



Spearmint
Cool, Minty



Peppermint
Green, Menthol



Parsley
Green, Herbal



Basil
Sweet, Minty



Black Pepper
Woody, Piney



Thai Green Curry
Spicy, Bright



Garden Mint
Green, Cool



SAVOURY FLAVOURS

+44 (0)117 982 8464 • www.plant-ex.com

Our savoury range offers a wide selection, enabling you to recreate authentic flavours from various cuisines and to keep the adventurous consumers excited.

*As these are all flavours, they do not actually contain meat, fish and dairy. Great for using in vegan products!

Our range includes, but is not limited to:

Meat

Our meat flavours offer rich and robust tastes that will leave your customers craving more.

Cheese

Our cheese flavours range from mild to sharp, offering the perfect balance of tangy and creamy tastes.

Fish

Our fish flavours provide a fresh and delicate taste that will transport your customers to the seaside.

Gouda Flavour Profiles



Chicken
Flame Grilled, Fried



Beef
Brothy, Umami



Cheddar
Mild, Sharp



Gouda
Rich, Nutty



Salmon
Citrusy, Buttery



Fish
Fatty, Meaty



Pork
Salty, Meaty



Chorizo
Spicy, Hot



Blue
Bright, Earthy



Parmesan
Tangy, Rich



Crab
Salty, Firm



Great addition for removing allergens from your labelling!

VEGETABLE FLAVOURS

+44 (0)117 982 8464 • www.plant-ex.com

Simple and comforting, our range of vegetable flavours will keep your NPD kitchen happy, providing you with plenty of opportunities. They are packed full of flavour!

Our range includes, but is not limited to:

Root

Root vegetable flavours will enhance the taste of your products, while providing a natural and earthy note.

Onion
Pungent, Crispt



Parsnip
Fresh, Earthy



Red Beet
Earthy, Sweet



Fried Potato
Starchy, Dense

Red

From peppers to chillis, red vegetables are great in your savoury dishes or to add a surprise twist to your sweet treat.

Pepper
Bright, Hot



Tomato
Juicy, Ripe



Red Cabbage
Fresh, Sweet

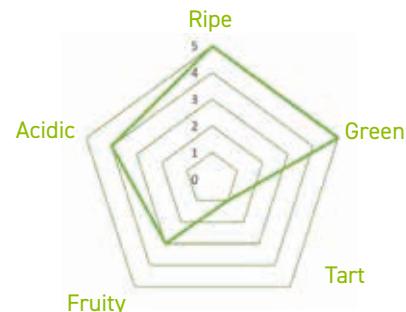


Chilli
Spicy, Pungent

Green

Green vegetables provide a fresh addition to your products. Recommended for use in meat rubs or sauces & seasonings.

Tomato Flavour Profiles



Spinach
Fresh, Acidic



Cucumber
Cool, Mild



Kale
Earthy, Crisp



Courgette
Woody, Mild

DIVERSE FLAVOURS

+44 (0)117 982 8464 • www.plant-ex.com

Our delicious diverse flavours, showcases some of our flavours that do not fit into a specific range or category. Let these flavours take centre stage in your final products.

Our range includes, but is not limited to:

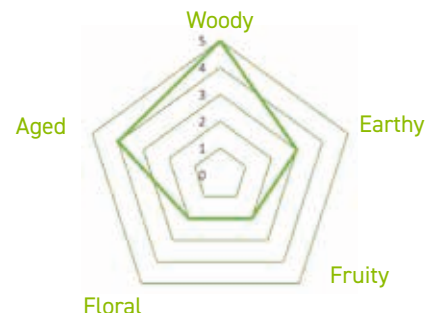
Alcohol

Our alcohol flavours provide strong exciting flavours for sober curious consumers.

Nuts

Looking for nut flavours, without the allergen? Plant-Ex have a wide range of nut flavours made up of aroma chemicals.

Red Wine Flavour Profiles



And more...

Plant-Ex's portfolio is too large to list everything. Here are just some more of our flavours from our diverse range.

Rum
Toasted, Spice



Brandy
Fruity, Oak



Hazelnut
Nutty, Musty



Peanut
Salty, Beany



Honey
Sweet, Succulent



Worcester Sauce
Tangy, Savoury



Wine
Floral, Grape



Ale
Dark, Cloudy



Pistachio
Piney, Woody



Almond
Bitter, Sweet



Smoke
Hickory, Oak



Cheesecake
Creamy, Sweet



QUALITY CONTROL

Quality & Product Safety

Plant-Ex quality team are divided into two functions: assurance and control. The key target of both parts of the team is product safety and performance. To this end, Plant-Ex have invested heavily into analytical equipment and operational systems controls to ensure that our on-site capabilities are strong enough to support the business.

As a member of both Campden BRI and the UK Food Additives and Ingredients Association, our quality team are regular attendees of training seminars to remain updated to changes in legislation, technology and procedure.

Scanning the horizons for unseen risks, the company spends almost 1% of revenue on external food safety testing to assure unbiased and thorough evaluation of both raw material and finished goods according to the PRP's and risk assessments undertaken by our quality team.







Innovation **naturally**





 +44 (0)117 982 8464
 sales@plant-ex.com

Plant-Ex Ingredients Ltd, Unit 7c, Access 18
Kingsweston Lane, Avonmouth, BS11 8HT
www.plant-ex.com

Innovation
naturally