



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

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NATURAL COLOURS

Natural Colours used in the food industry originate from a wide range of natural edible sources like vegetables, fruits, plants and minerals. They undergo chemical or solvent processing to selectively extract the pigments responsible for the colour, resulting in a highly concentrated and stable colour.

As technological additives, the usage of food colours is regulated under EU legislation 1333/2008, with the specifications for food additives listed in EU 231/2012.

Natural colours' function must be declared on the product labelling, for example:
Colour: E160a or Colour: Beta Carotene.

Natural Colour Portfolio

*Some colours, while derived from natural sources are not considered natural colours as they have undergone too great a level of processing.



E100 Curcumin



E120 Carmine*



E150 a,c,d
Caramels*



E161b Lutein*



E162 Red Beet



E153 Carbon Black



E160b Annatto*



E163 Anthocyanins



E170 Calcium
Carbonate



E160a Carotenes



E141 Chlorophyllins



E160c Paprika



E140 Chlorophyll



COLOURING FOODSTUFFS

Colouring Foodstuffs are considered 'Clean Label' ingredients. This is because they don't undergo selective extraction - they are simply concentrated juices. They appeal to producers/consumers who want a food product based on ingredients that consumers can easily relate to.

Colouring foodstuffs are labelled as an ingredient in the product rather than labelling as a function, and no E-number is required. For example, you would label these as 'Black Carrot Concentrate'.

Colouring Foodstuff Portfolio



Safflower



Black Carrot



Malt



Spirulina



Purple Sweet Potato



Burnt Sugar



Red Beet



Grapeskin



Radish



Elderberry



Red Cabbage



CURCUMIN

E-Number: E100

Origin: Curcumin is a naturally occurring pigment extracted from the roots of the Turmeric plant.

Shade: A warm and bright yellow colour.

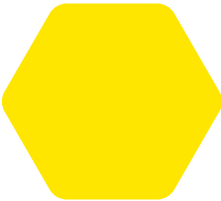
Stability:

pH	Stable in range 3-8
Light	Poor*
Heat	Good

More Information: *Plant-Ex's Colour Specialists have created a light stable alternative by fine milling the curcumin pigment into a water-soluble medium for confectionery, bakery fillings and sauce applications.

Applications:

- Beverages
- Bakery
- Dairy
- Confectionery
- Sauces & Seasonings



LUTEIN

E-Number: E161b

Origin: Extracted from the flowers of the Marigold plant *Tagetes erecta*.

Shade: A warm, lemon yellow colour at lower dosages with more orange hue at higher dosages.

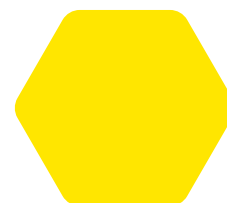
Stability:

pH	Stable in range 3-8
Light	Good
Heat	Good

More Information: Lutein extract isn't particularly expensive, and so it is recommended for a large variety of products.

Applications:

Beverages
Bakery
Dairy
Confectionery
Sauces & Seasonings



SAFFLOWER

Origin: Extracted from the plant *Carthamus tinctorius*.

Shade: A clear, bright yellow colour.

Stability:

pH	Stable in range 3-8
Light	Excellent
Heat	Excellent

More Information: Safflower is a colouring foodstuff can be labelled as 'Safflower Extract' - this is ideal for food manufacturers with a health-conscious target market.

Applications:

Beverages
Bakery
Dairy
Confectionery
Snacks
Sauces & Seasonings



PAPRIKA

E-Number: E160c

Origin: Extracted from the dried fruits of the sweet Bell Pepper plant *Capsicum Annum*.

Shade: A natural orange colour.

Stability:

pH	Stable in range 3-7
Light	Good
Heat	Good

More Information: Paprika pigment may sometimes be at risk of degradation through oxidation. The team at Plant-Ex have therefore created a portfolio of light-stable paprika products which have been blended with antioxidants to slow down the degradation.

Applications:

Beverages
Bakery
Dairy
Confectionery
Snacks
Sauces & Seasonings



CAROTENES

E-Number: E160a

Origin: Extracted from fungi, plants, vegetables and fruits, but can also be produced synthetically.

Shade: Used to add yellow and orange tones.

Stability:

pH	Stable in range 3-7
Light	Good
Heat	Excellent

More Information: Carotenes come from a variety of sources and therefore must be labelled as such: 160a (i) Synthetic*, (ii) Natural Mixed Palm, (iii) Natural Blakeslea Trispora, (iv) Natural Algal

Applications:

- Beverages
- Bakery
- Dairy
- Confectionery
- Snacks
- Sauces & Seasonings



ANNATTO

E-Number: E160b

Origin: Derived from the seeds of the Achiote tree *Bixa Orellana*.

Shade: An orange-red colour.

Stability:

pH	Sensitive to low pH
Light	Good
Heat	Good

More Information: Amendments made under EU Regulation

2020/771 means Annatto must now be classified as;

Annatto: Bixin E160b (i)

Annatto: Norbixin E160b (ii)

Plant-Ex is fully compliant with EU Regulation 2020/771, offering a complete portfolio of Annatto based colours.

Applications:

Beverages

Bakery

Dairy

Confectionery

Sauces & Seasonings



CARMINE

E-Number: E120

Origin: Derived from the female Cochineal beetle *Dactylopius*.

Shade: A bright pink-red.

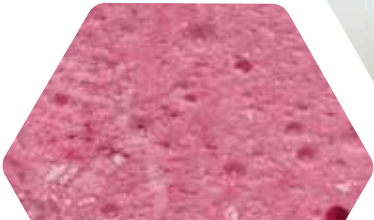
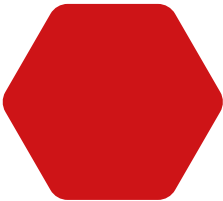
Stability:

pH	Sensitive to low pH
Light	Good
Heat	Excellent

More Information: Carmine is the only colour that Plant-Ex offers that is not suitable for vegans or vegetarians.

Applications:

- Bakery
- Dairy
- Confectionery
- Meats
- Sauces & Seasonings



RED BEET

Origin: Made from the juice of Red Beetroots Beta Vulgaris.

Shade: Vibrant pink to red shades.

Stability:

pH	Stable in range 4-7
Light	Poor
Heat	Poor

More Information: Red beet is considered both a natural colour and colouring foodstuff, so you can decide how you would like to declare it on the back of pack.

Applications:

Beverages

Dairy

Confectionery

Snacks & Seasoning

Sports Nutrition

Bakery - NOT suitable for baked products, but works well in icings and frostings



ANTHOCYANINS

Black Carrot

Origin: Botanical Source - *Daucus carota*.

Profile: A deep red colour.

Radish

Origin: Botanical Source - *Raphanus raphistrum*.

Profile: Radish produces a bright red-orange colour in low pH, turning pinker in neutral applications.

Red Cabbage

Origin: Botanical Source - *Brassica oleracea*.

Profile: Produce a reddish pink hue in acidic applications, turning blue in neutral applications.



ANTHOCYANINS

Purple Sweet Potato

Origin: Botanical Source - *Lpomoea batatas*.

Profile: Produces a vibrant pink colour in acidic applications, turning purple in neutral applications.

Grape Skin

Origin: Botanical Source - *Vitis vinefera*.

Profile: Produces a dark berry like red colour in acidic applications.

** Note: Grapeskin Extract carries an allergen declaration for Sulphur Dioxide.

Elderberry

Origin: Botanical Source - *Sambucus*.

Profile: Creates a purple-reddish hue in acidic food applications.



SPIRULINA

Origin: Derived from *Arthrospira Platentis*, a type of blue-green algae known as *Cyanobacteria*.

Shade: A bright blue colour.

Stability:

pH	Limited
Light	Good
Heat	Limited

More Information: With very few existing natural blue shades, Spirulina is widely used option for achieving Clean-Label blue, green and violet shades.

Applications:

- Beverages
- Dairy
- Confectionery
- Sports Nutrition



CHLOROPHYLL

E-Number: E140

Origin: It is primarily sourced from plants such as Grass, Spinach & Alfalfa.

Shade: Yellow-Green Pigment.

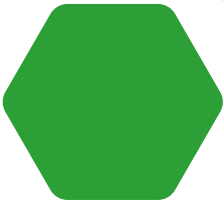
Stability:

pH	Stable at 3.5
Light	Sensitive
Heat	Good

More Information: It has limited light and acid stability so must be carefully processed to avoid damaging the pigment.

Applications:

- Beverages
- Bakery
- Dairy
- Confectionery
- Snacks
- Sauces & Seasonings



CHLOROPHYLL

E141 (i) COPPER CHLOROPHYLL: Copper Chlorophyll is a semi-synthetic derivative of Chlorophyll which has been reacted with Copper to create an oil-soluble pigment with **ENHANCED STABILITY** and a **bold, green colour**.

Typically an oil soluble liquid, Copper Chlorophyll can also be made water soluble through the use of permitted emulsifiers.

CU Chlorophyll is also commonly blended with yellow colours to create green colour blends.

E141 (ii) SODIUM COPPER CHLOROPHYLLIN: Sodium Copper Chlorophyllin is a semi-synthetic derivative of Chlorophyll which has been reacted with Sodium salts to create a dark green water-soluble pigment with **EXCELLENT HEAT AND LIGHT STABILITY**.

It is widely used in the confectionery industry for its rich and intense green colour. Typically providing more of a blue/green shade, Sodium Copper Chlorophyllin can be blended with yellow colours to make a range of green shades from Pistachio or Kiwi to Aqua Marine and Mints.



MALT EXTRACT

Origin: Malt is extracted from Barley.

Shade: For more intense, darker shades of brown.

Stability:

pH	Limited
Light	Good
Heat	Good

More Information: Malt is extracted from Barley and whilst the gluten level is low and often undetectable, the product carries an allergen declaration.

Applications:

Beverages
Bakery
Dairy



BURNT SUGAR

Origin: Burnt Sugar is formed by the controlled heating of sugars without the addition of other ingredients. This is known as the Maillard Reaction.

Shade: A range in brown shades from light yellow/golden-brown to reddish-brown.

Stability:

pH	Stable at 3-7
Light	Good
Heat	Good

More Information: Burnt Sugar can either be declared with the E-number E150a, or with a clean label declaration: 'Burnt Sugar Syrup/Powder'.

Applications:

- Beverages
- Bakery
- Dairy
- Confectionery
- Sauces & Seasonings
- Meat



CARMELS

E-Number: E150a, c, d

Origin: A caramel formed by the controlled heating of food sugars.

E150a: no additional ingredients.

E150c: addition of ammonia.

E150d: addition of ammonia and sulphites.

Shade: Provides reddish brown to dark brown, almost black.

Stability:

pH	Stable at 3-9
Light	Sensitive
Heat	Good

More Information:

Burnt sugar E150a is both a natural colour and a colouring foodstuff, whereas E150c Ammonia Caramel and E150d Sulphite Ammonia Caramel are colour additives, so will need to be declared as such on the back of pack.

Applications:

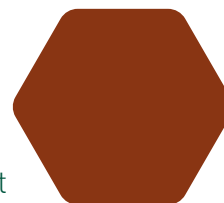
Beverages

Bakery

Dairy

Confectionery

Sauces & Seasonings



CALCIUM CARBONATE

Origin: Calcium Carbonate is a naturally occurring mineral derived from Calcite rich rocks such as Limestone, Chalk and Marble. It can also be found in biological sources such as Eggshells and Seashells. Calcium Carbonate is an excellent source of dietary Calcium.

Shade: Highly opaque, naturally occurring white colour.

Stability:

pH	Stable at 5.5-7.5
Light	Good
Heat	Good

More Information: This is a replacement for Titanium Dioxide. In order to achieve the same colouring affect as TiO₂, you need to use roughly 10x the dosage. It is not suitable for low pH applications.

Applications:

- Beverages
- Dairy
- Confectionery
- Sports Nutrition



CARBON BLACK

E-Number: E153

Origin: It is produced through the burning of plant material, such as coconut shells and peat.

Shade: A sharp black for more intense darker shades.

Stability:

pH	Stable at 3.5
Light	Sensitive
Heat	Good

More Information: Vegetable carbon in powder format is very dusty and must be processed carefully in order to avoid contamination of work areas. Plant-Ex liquid dispersions are recommended for easy dosing and more efficient use in production.

Applications:

Beverages
Bakery
Dairy
Confectionery
Snacks
Seasoning





COLOUR MATCHING

Our Capabilities



The key to successful matching is the use of our Colorimetry lab and Spectrophotometry to ascertain the target. Then dedication, time and long years of experience to create the perfect match.

We will then check the Customer's application to ensure that the option provided is the most suitable.

Our work is an exciting mix of knowing that we are a team of experts completing serious work for clients, combined with continuous learning as we strive for new and better colours.





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