

#snacks



mixes



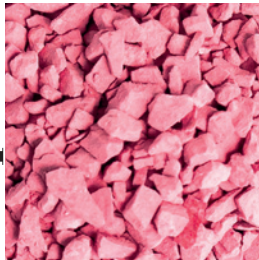
herbs extracts

#dried fruits



#dried vegetables

#superfoods



legume flours

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Natural food ingredients

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We are changing for you

Where there's a will, there's a way.

We are **constantly developing** and following the dynamic market changes and the expectations of our partners. All our activities are implemented in accordance with the best principles of **design thinking**. We create innovative products and services, based on a comprehensive **understanding of the problems and needs** of our trade partners.

The rebranding process, which **PAULA Ingredients** underwent last year, also served as an impulse to improve the **organisation of our work** and focus creative energy and cooperation between teams on effects in the form of innovative end products. Thanks to our **extensive experience**, we develop them from the initial idea to the implementation of the final concept through a **unique recipe** that will win numerous consumers on the market.



Anna Zamojska
Export Manager



Elżbieta Machlańska
CEO



Monika Przyjemská
Quality Department Manager

from the **PAST**

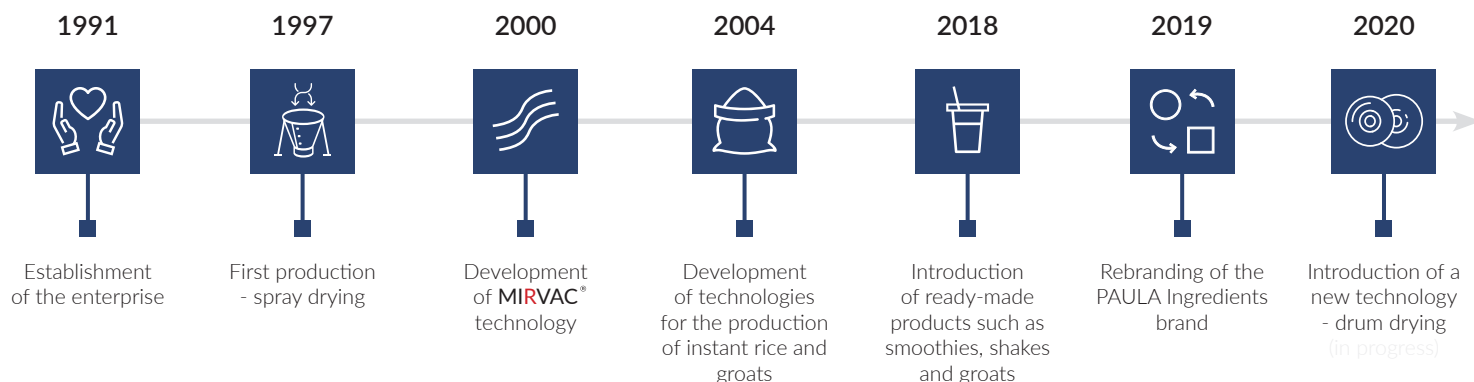


to the **FUTURE**

PAULA

INGREDIENTS

From tradition to modernity



Global reach

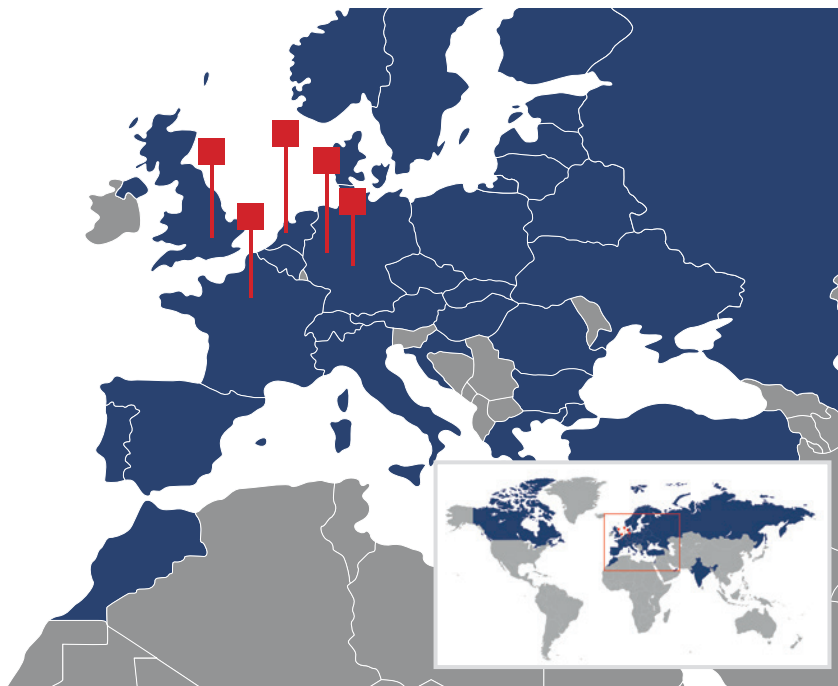
Our natural food ingredients are exported to:

36 countries

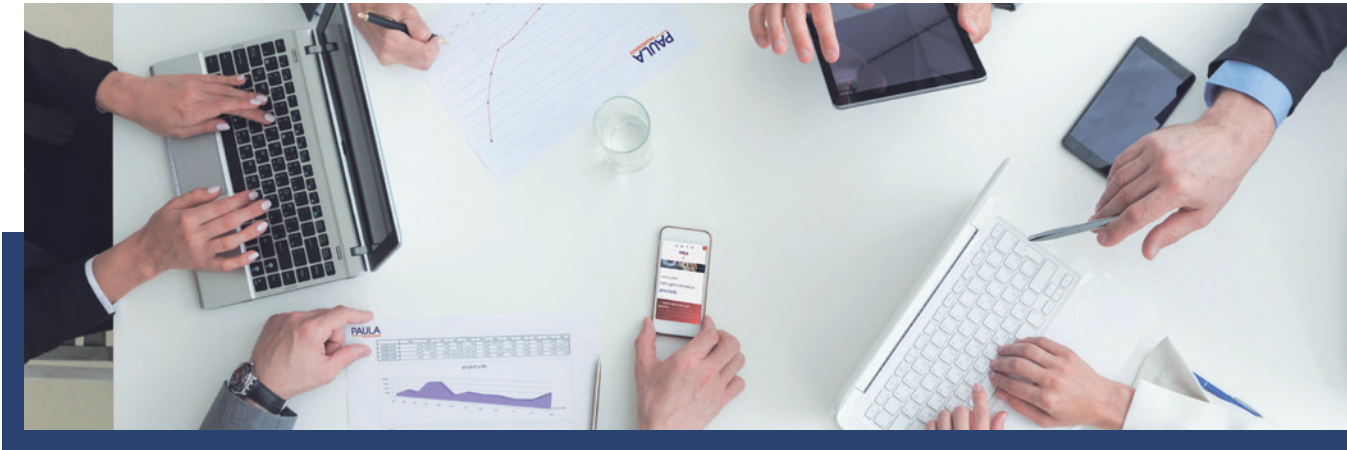
in 4 continents

In order to exchange inspiration and search for innovative solutions, we regularly participate in the largest international food fairs.

- | | |
|--------------------|------------------|
| ■ ANUGA | ■ SIAL Paris |
| ■ ISM | ■ IFE London |
| ■ Hi&Ni Europe | ■ PLMA Amsterdam |
| ■ SIAL Middle East | ■ FI Europe |



About us



Team of specialists



R&D



PURCHASING



QUALITY



PRODUCTION



HR



SALES

PAULA Ingredients is primarily a team of people with passion and the right attitude, which guarantees customer satisfaction as well as trust. The close cooperation of **qualified and experienced professionals** in many fields allows us to **create products** using modern technologies and to provide unique ingredients for food production.

The effects of our work are characterised by **innovation**, a **variety of inspirations** and what is very important the **effective use of global trends** in the food industry.

In our daily work, we are guided by the principles of **social ethics**, and act in accordance with **corporate social responsibility**.



ACTIONS CONFORMING
TO CORPORATE SOCIAL
RESPONSIBILITY



ACTIONS CONFORMING
TO THE PRINCIPLES
OF SOCIAL ETHICS

Divisions of PAULA Ingredients

For us, the production of natural food ingredients is more than just work. It is a passion pursued every day.



"The basis of our production is innovative technologies and natural raw materials. The combination of these two elements allows us to obtain outstanding products."

Rafał Bator, Factory Director, R&D Manager



"Natural ingredients are the healthiest, which is why we purchase the best-quality fruit and vegetables from Polish farms."

Joanna Prus-Szewczyk, Purchasing Coordinator



"The continuous improvement of our quality control system helps us achieve the highest standards which result from the implemented systems, legal provisions and requirements imposed by our clients."

Monika Przyjemaska, Quality Department Manager



"Our modern machines stock and many years team's extensive experience make our ingredients perfect for all kinds of food products."

Maciej Roliński, Operations Director



"Harmony in a team requires good composition, just like our products. We select specialists who have a good understanding of the responsibility of the role they play when producing food ingredients."

Katarzyna Kuźniacka, HR Manager



"By cooperating with the largest companies in the food industry and our long-term partners, we can be sure that together we successfully deliver unique, tasty and functional food products."

Agnieszka Walczyńska, Sales Operation Manager

Customer needs

We prefer a **dialogue-based work style**, where the customer's concepts complement the **experience** of our R&D team. We use the **full potential** of the individual ideas of our business partners, and thanks to the close cooperation and commitment of the PAULA Ingredients team, we develop them into **unique final products**.

■ *Final product design*

All parameters of the developed product are specified in accordance with the order. The technological methods are adjusted and we point to the **possibilities of applying** innovative product solutions that build a competitive advantage. The product **development path is planned in detail**, up to the launch.

■ *Raw material selection*

Suppliers are **carefully selected** and **crops** are inspected from the seed selection stage, using the knowledge of agronomists. We prefer raw materials from **sustainable agriculture plantations**, cultivated with the rational use of natural resources and which have a limited negative impact on the environment.

■ *High quality standards*

Our final products undergo a **meticulous and demanding quality control process**. All production stages are strictly covered by the certified Food Safety System (**FSSC 22000**), which is implemented at every stage of production from raw material control at the supplier's premises, to final product testing.



FOOD SAFETY
SYSTEM CERTIFICATE

■ *Product launch*

We present the prototype, support the client in **developing the marketing plan** and engage the team's knowledge and experience in the market launch of our jointly developed product concept. For us, the most important goal is the **success of our clients**.

Our services

For our partners, we provide services for **drying raw materials** on several specialised production lines, and the services covering all stages of the finished product preparation.



MIRVAC[®] drying

Thanks to the microwave-vacuum drying method developed by the PAULA Ingredients technological team, we obtain **delicately crunchy, natural-looking products with an intense aroma and taste of fresh fruit / vegetables**, as well as a high concentration of nutritional value.



Spray drying

A drying method thanks to which we obtain powdered products from things such as concentrates, aromas, purees and extracts. Spray-dried products are **micro-encapsulated** (their aroma is only released after water is poured on them). Drying products in spray-dried technology using nozzles allows products **with a higher degree of solubility in cold liquids** to be obtained.



Drum drying

A drying technology which is widely used for liquids, gels and pastes. The result of the process is products in the form of **flakes or powder**. An additional advantage of this method is the possibility of drying raw materials **without the use of additional carriers**.



Granulate

Transformation of powdered products / flour into granules of various sizes. Granulated products **do not change their properties**, such as flavour and colour. Their advantage is the possibility of using them in applications in which the powdered form cannot be used (e.g. teabags).



Mixing

We prepare mixtures from loose products from external and our own raw materials. They are made according to the **original ideas - individual recipes of our clients or new compositions and flavours** which are developed in cooperation with our R&D department.



Packaging

Food producers and distributors are offered packaging services for loose food products in various forms. We offer system solutions for the packaging process and **always adapt the scope of our services to the client's needs**.



Design

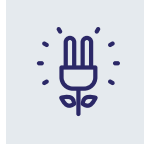
Our **comprehensive service** can cover all stages: preparation of the recipe, technical facilities covering the stage of product implementation, technological consulting and support in the field of labelling and packaging.

Sustainability - what do we practice?



Energy consumption monitoring

Management and optimal use in production processes.



Green energy certificates

Energy purchased from suppliers with certificates attesting to its purchase directly from renewable energy producers.



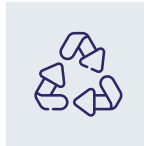
Reduction of CO₂ emissions

Thanks to the use of a gas carrier, a heating system and the installation of condensing boilers, we have reduced CO₂ emissions by approx. 785 tons per year.



Compliance with the standards of dust and gases emission

We take care of the air through regular inspections of gas boilers and analysis of the chemical composition of flue gases.



Careful waste management

We separate waste in accordance with current environmental laws and regulations.



Recycling of packaging

They are separated into usable fractions and pressed to reduce volume.

Sustainability - what do we practice?



Reusable packaging

The raw material is delivered, among others, in crates, as they are more hygienic and more durable.



Organic waste recycling

Plant waste is handed over to the facility, where it is recovered in the R3 process.



Underground water and supply networks

They are regularly monitored and rationally managed.



New technologies and projects

At the source of their formation, we conduct an analysis that takes into account environmental aspects.



Requirements Eti base code

We have a positive impact on the natural environment, working conditions and the local community.



Smeta audit procedure

We chose the SMETA audit platform, which is based on best ethics and trade practices.

Sustainability - what do we practice?



Factory canteens

We do not use disposable tableware or cutlery in these places.



Current and planned investments

Every year we analyse and update them in terms of energy. We also check whether they will not be a burden on the environment.



Electric forklifts

We have purchased electrically powered vehicles and we use highly efficient chargers.



There's a way to do it better — find it.
Thomas Edison

High-quality raw materials

Natural ingredients are the most valuable for us, which is why we use only vegetables and fruit from sources controlled by us in our production process. The continued work on lasting **partner relations** with suppliers results in **mutual trust**.

We are certain that our customers receive products that delight with their quality and nutritional values, due to the fact that they are made from **freshly harvested local crops**.

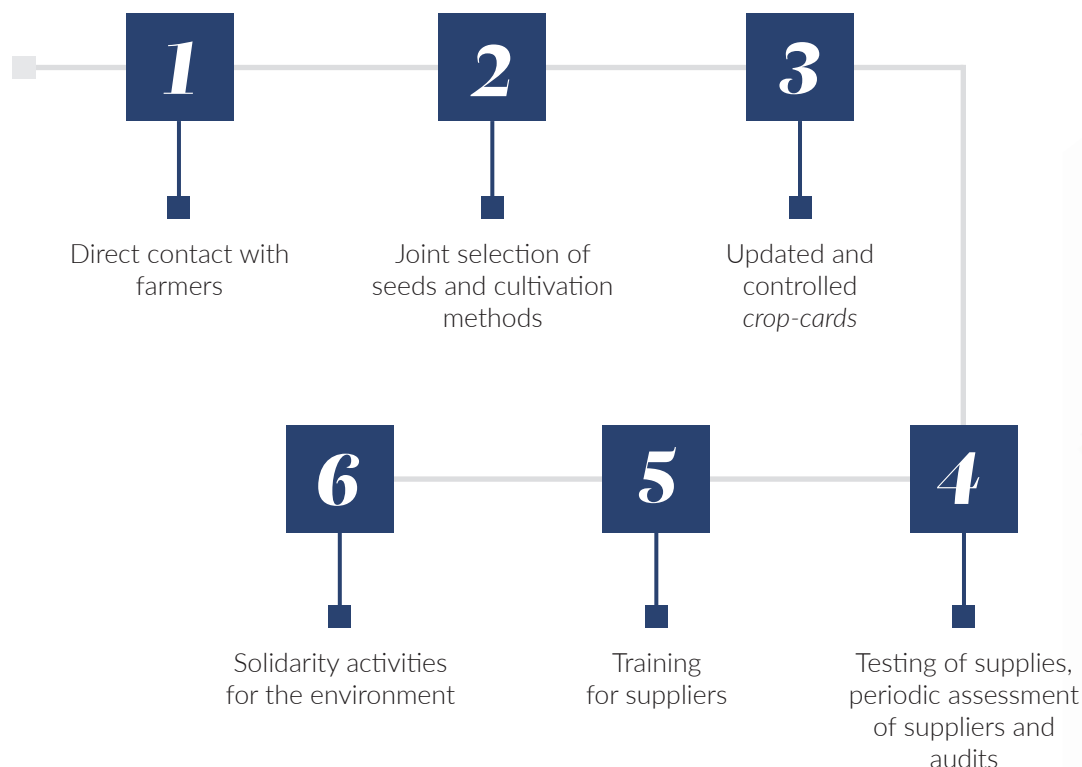
***Products made only from
natural raw materials.***

■ ***Common benefits of sustainable crops***

- **Rational** use of the natural resources available.
- Limiting the negative environmental impact on **all levels of the supply chain**.
- Ensuring **high-quality products** from farms using fewer pesticides while reducing water consumption and the amount of waste water generated as well as reducing their toxicity.
- Ensuring **legal, social** and **ethical** compliance.



■ *We set the standards of cooperation with suppliers*



■ *Certified value of the products*

The natural raw materials used to make our finished products are not genetically modified. We require non-GMO certificates or declarations from our suppliers. We have therefore started complying with the **ORGANIC Certificate**, which confirms the compliance of our products with the principles of organic farming. We also offer production that meets the **Halal** and **Kosher** quality requirements.



ORGANIC
CERTIFICATE



HALAL
CERTIFICATE



KOSHER
CERTIFICATE

Product categories

1

MIRVAC®

- Dried fruit
- Dried infused fruit
- Dried baked fruit
- Dried vegetable mixes
- Superfoods
- Dried vegetables
- Dried baked vegetables
- Dried pickled vegetables
- Rice
- Groats
- Cheese



Available fractions:



WHOLE FRUIT /
VEGETABLE



FRUIT /
VEGETABLE
HALF



SLICE



STRIPE



CUBE



CRUMBLE
/ FLAKE



POWDER

2

Spray drying

- Concentrated juice fruit powders
- Concentrated juice vegetable powders
- Powdered natural dyes
- Dried vegetable, spice and herb extracts
- Hydrolysed vegetable protein
- Dried yeast extracts
- Other ingredients (e.g. powdered honey, soya sauce, lactic acid)



Available fractions:



POWDER

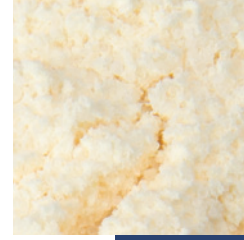


GRANULATE

3

Mixes / Sprinkles

- Vegetable stocks
- Flavoured hydrolysed vegetable protein and yeast extracts
- Vegetable mixes
- Own compositions



Available
fractions:



POWDER



GRANULATE



CRUMBLE
/ FLAKE

4

Base products

- Legume flours
- Rice flour



Available
fractions:



POWDER

5

Drum drying - In progress

- Fruit and vegetable powders
- Powdered natural dyes
- Potato flakes



Available
fractions:



POWDER



CRUMBLE
/ FLAKE

Products we offer

■ *Dried vegetables and fruits*

- much better quality than freeze-dried products
- retain their **natural look, taste and nutritional values**
- no unnecessary ingredients
- extremely light
- a low bulk density ensures **high yield**
- crispy, but with a durable structure
- less susceptible to crumbling

Additional options of fruit and vegetable available on custom order are, among others:

- **dried baked or pickled vegetables**
- selected fruit coated with any kind of chocolate
- fruit infused **with high-quality functional ingredients** (such as fibre, inulin, vitamins, concentrated juices or honey) to give it specific properties and increase its nutritional value



■ *Vegetable and fruit powders*

- have **natural colouring properties**
- based on a carrier
- enriched with fruit flours
- available in a granulated form
- **intense taste and aroma** without additional fragrances
- microbiologically stable
- suitable for dry and wet processing
- allow for intense colouring with a low dosage
- **no unnecessary fixing of substances**



■ *Superfoods*

- functional food ingredients
- **a high level** of nutritional value
- suitable for vegans and vegetarians
- a high dietary **fibre content**
- no preservatives
- no added sugars
- gluten-free



■ *Dried vegetable, spice and herb extracts*

- an intense aroma ▪ high efficiency ▪ **no artificial colours** ▪ resistant to high temperatures



■ *Hydrolysed vegetable protein*

- a flavour enhancer ▪ **more efficient** than liquid equivalents ▪ versatile use in food production and meat processing ▪ **lower salt content** than in other hydrolysates available on the market ▪ no preservatives



■ *Dried yeast extracts*

- a **great alternative** to monosodium glutamate ▪ enhance the **flavour of products** ▪ no preservatives



■ *Mixes*

- a composition of mixes based on our own recipes ▪ made based on our own ingredients
- **special components** increase product attractiveness ▪ a varied **taste and aroma**
- the possibility of developing an **individual recipe** and using functional ingredients



■ *Base products*

- legume flours ▪ **100% natural substitutes** for gluten flours ▪ thickeners, produced **without additives and carriers** ▪ excellent for instant products and for cooking ▪ **a velvety texture effect** ▪ a high vegetable protein content



■ *Other ingredients*

- additives in the form of loose carrier-based powder ▪ **microbiologically stable** ▪ efficient
- **easier to store** than liquid equivalents



| *To order*

Fruit and vegetables (including flavoured versions) not included in our basic offer as well as other fractions **available after individual arrangements**, with a specified MOQ (minimum order quantity). In addition, we also manufacture nozzle-dried concentrates on request.



See
more at
PAULAingredients.com/offer



Inspirations and applications

■ ***Dried vegetables and fruits***



- Vegetable / fruit crisps
- Mixes / snacks
- Functional bars



- Instant meals
- Porridge
- Muesli



- Confectionery
- Stuffed products
- Cheese

■ ***Superfoods***



- Cereals
- Groats / gruels
- Oat / millet cookies



- Smoothies / shakes
- Desserts
- Cocktails / milk-based drinks



- Dietary supplements
- Cosmetics
- Sports nutrients

■ Vegetable and fruit powders



- Ice creams / sorbets
- Yoghurts / mousses
- Icing additives



- Flavoured teas
- Isotonic / instant / plant drinks
- Sweets / cookies / crackers



- Cream soups
- Hummus / pastes / couscous
- Dips

■ Legume flours



- Snacks
- Pates
- Falafels / burgers / cutlets



- Flavoured breads / buns
- Ravioli / tortellini / dumplings
- Instant dishes / sauces / soups



- Pastas
- Pizza bases / vegetable tarts
- Wraps / tortillas



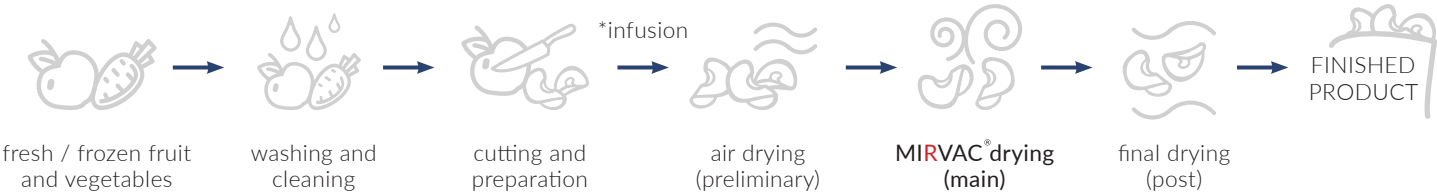
Discover
other ideas at
PAULAingredients.com/inspirations

Our technologies

MIRVAC[®] - microwave-vacuum drying

A drying method which brings unique effects in a **very short time** and at a **low (but positive) temperature**. It is used for fruit and vegetables, among others. It allows you to maintain a **very high level of nutritional value** in the final product. Dried products recover their **natural texture, taste and smell** in the rehydration process, depending on the raw material used.

How does the process work?



MIRVAC[®] vs. generally-used freeze drying

DRYING TECHNOLOGIES:	THERMAL PROCESSING	NUTRITIONAL VALUES	APPEARANCE	AROMA	TASTE	TEXTURE
MIRVAC [®]	MILD BUT POSITIVE TEMP.	HIGH	CLOSE TO NATURAL	INTENSE NATURAL	VERY INTENSE	CRUNCHY YET STABLE
FREEZE DRYING	SPECIFIC	MEDIUM	LESS NATURAL	GENTLE	LESS INTENSE	CRISPY

MIRVAC[®] infusion

The process of enriching the final product with high-quality **functional ingredients** (such as fibre, inulin, vitamins, concentrated juices or honey) to give it specific properties and increase its nutritional value. Thanks to this, the **finished products have a diverse form, crispiness and texture**, and can be tailored to the individual needs of our customers.

The versatile benefits of our drying method



Modern

The shortest industrial drying process - it only takes 2 to 3 hours. The effectiveness of the method translates into a **reduction in production costs**.



Reliable

Detailed verification and **inspection of each stage of production** from the raw materials to the final products. Testing takes place in both internal modern laboratories, and accredited research units.



Innovative

The **unique technology of drying** at low, yet positive temperatures on an industrial scale.



Unique

Unlike the popular freeze-dried products, it guarantees **better taste, appearance, texture, crunchiness and natural colour** of fresh vegetables or fruit.



Effective

Thanks to the condensation of vitamins, minerals or fibre, in a much smaller amount of the finished product when, compared to the initial raw material, **there are more valuable ingredients**. The final products have health-promoting properties.



Safe

The use of a vacuum means that water boils at as little as low as 20 °C whilst at the same time **effectively eliminating microorganisms**.

| *Other technologies*

■ *Drum drying*

Technology with a **wide range of applications** for highly viscous solutions and unstable substances such as liquids, gels, pastes and suspensions as well as fibrous materials. Drum dryers use a steam-heated drum, on whose outer surface a thin layer of moist raw material is applied with uniform thickness. During a partial rotation of the drum, the raw material is dried and cut off by a special knife.

The options for selecting the drum temperature, variable dosing parameters and feeding the liquid for drying as well as the use of an additional vacuum chamber, ensure that the product can be obtained without the need of a carrier. In the case of raw materials that undergo a rapid oxidation process are susceptible to enzymatic changes and are sensitive to high temperatures, the **products have the right colour**.

Drum dryers are characterised by the **short preparation time of the final product** (with higher energy efficiency), which translates to a reduction in the costs of the production process. Thanks to the drum drying process, we obtain products in the form of flakes or powder, among others: fruit and vegetable powders, powder dyes, potato flakes and dried fruit/vegetables.



■ *Spray drying*

Microbiologically clean and **easy to apply** powdered products made of liquid concentrated juice, concentrate or other wet raw materials. The solutions are sprayed using a spray disk, while drying occurs by immediate evaporation of the water by using hot air. The final product is microencapsulated so that it releases its aroma **only after having water poured on it** - which is its great advantage.

The spray-drying technology with the use of nozzles allows a product with better structure and powder friability, and increased solubility in cold solutions to be obtained. **This is the perfect solution for demanding customers.**

■ *Production of instant legume flours*

Fully natural substitutes for gluten flours, as well as natural thickeners, produced **without any additives or carriers**. They do not need to be cooked.

■ *Production of instant rice and groats*

Thanks to the properly selected parameters of the technological process, the products **rehydrate very quickly**, retaining the taste of the cooked raw material, and are not sticky. The use of various process parameters allows you to **tailor the final product to the customer's needs** in terms of hardness, viscosity and rehydration time.

■ *Production of mixes*

Made from the a combination of various raw materials, thus creating a **new finished product**, e.g. vegetable broth based on natural ingredients, hydrolysates and yeast extracts, our own compositions or compositions ordered by clients.



Read
more at
PAULAingredients.com/technologies



Current trends

Natural texture

Vegetable crispiness is an asset that is worth paying attention to in the **production of dried snacks**. Consumers are looking for sensual experiences in products hence, when choosing salty snacks, for example, they pay attention to their **crispiness**. Attractive sensual qualities will also convince buyers to opt for products from the category of healthy food.



*The advantages
of drying foods*



*Texture is becoming an increasingly
important advantage of new
products on the market.*

Crunchiness and natural texture can be utilised even better in mixes which combine **dried vegetables with other crunchy ingredients** such as nuts or dried fruit. Including ingredients known to consumers from other types of snacks in a mix may prompt them to try dried vegetables.

Źródło: Innova Market Insights, Raport "Top Ten Trends 2022"

Current trends

Unique properties

One of the effects of the coronavirus pandemic has been an increased interest in **healthy diet**. More and more consumers are choosing healthier meal ingredients and health-promoting supplements.



Consumers around the world appreciate superfoods for their health benefits.

Education of consumers is a good way to popularise the **superfoods** category. In the product communication, it is worth emphasizing the health benefits and nutritional values of these ingredients.



Source: Novo Taste, Raport "2022 Flavour Trends"

Current trends

Sustainability

Sustainability is an important aspect in consumers' food choices. More and more of them are looking for **responsibly sourced ingredients** with proof of origin.

“
*When buying food,
49% of consumers
worldwide take
sustainability into
consideration.*”



Zero waste

The zero waste **philosophy** is growing in popularity. Consumers are increasingly aware of the cost of food production for the planet. However, given the environmental impact of food, consumers will want to make informed choices. This is why the standardisation of **plant-based** food will grow strong.

Source: Kerry, Report "2022 Taste Charts"



Choose your
— *ingredients for success*



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Be inspired

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